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BACHELOR'S THESIS

Blockchain in Facebook's Project - Libra

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Abstract: As the world continue to move on to a modern future, the way we store and use money has also change and develop to a new era in which we call the era of cryptocurrency. When the first digital coin was presented to the world called Bitcoin, cryptocurrency began to growth like mushroom after one another like Ethereum, Tether, Litecoin, etc. Now, when the cryptocurrency world began to saturate, a new competitor comes to challenge others by the name of Libra, a cryptocurrency from Facebook. Project Libra vision is to be a global coin for everyone that empower those who lack a bank account can have access to the financial service through a mobile phone. Bitcoin and other crypto coins have been existed for many years and their popularity has gone widespread across the globe especially the infamous Bitcoin. To compete with a titan, you need to be a titan or if not, you need to be innovated and prepare for the challenge. Facebook is a not a titan in the digital coin world but it is one of the tech titan of the world. Can Libra put up with the challenge and becoming a global coin?

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Chapter 1: Introduction

1.1. Problem Description (MP)

Mr. Jan Veuger who is a blockchain expert at Hogeschool Saxion has been raising a question about the initiative of project Libra from Facebook which is a new cryptocurrency that is very popular on the news right now. There have been so many digital moneys that exists out there like Bitcoin, Litecoin, Monero, etc. or stable coin like USD Coin (TETHER), Paxos Standard (PAX), Tether (USDT) but Facebook wants to launch another stable coin call Libra.

Blockchain has existed for more than 10 years now since it first founded in 2009 and conceptualized by a person or group of people under the name of Satoshi Nakamoto, father of Bitcoin who is still currently unknown. Since then, Bitcoin has become the biggest digital money existed right now and an entrepreneur for other cryptocurrencies. Facebook won't fully control Libra, but instead get just a single vote in its governance like other founding members of the Libra Association, including Visa, Uber, and Andreessen Horowitz and said that Libra will be based on blockchain, but is it true that Libra will be based on blockchain and how can it compete with other famous cryptocurrency especially Bitcoin. Its vision is to become a global, digitally native, reserve-backed cryptocurrency built on the foundation of blockchain technology. People will be able to send, receive, spend and secure their money, enabling a more inclusive global financial system (Association, 2020). It is also the vision of every cryptocurrency out there, so what makes Libra different from its competitors.

In 2017, 6.5 percent of U.S. households were "unbanked," meaning that no one in the household had a checking or savings account (Apaam, et al., 2018). Globally, 1.7 billion adults remain unbanked, yet two-thirds of them own a mobile phone that could help them access financial services (RELEASE, 2018). Libra's plan to focus on those people who lack a bank account might choose whoever offers them financial services alternatives when the banking system has failed them. "There are more than a billion people around the world who don't have access to a bank account, but they could through mobile phones if the right system existed" (Silva, 2019). Other cryptocurrencies could also solve this

problem so is there anything else that Libra can bring to the world's financial system while others cannot.

1.2. Research Problem (RP)

1.2.1. Main question

a) What are the (dis)advantages that Libra bring to the world according to other currencies?

b) What is the outlook and impact of Libra project?

1.2.2. Sub-question

a) What is the aim of project Libra?

b) What are the differences between Bitcoin and Libra?

c) What are the differences between stable coins and Libra?

d) What is the initial reaction from the authorities to project Libra?

1.3. Limitation

There are lots of cryptocurrency exist on the market right now. For this thesis, I will be narrowed down to Bitcoin and Tether as an example to compare with Libra. An important note is that this thesis only collects information and data from 2019 so there won't be information regarding any changes in the future.

1.4. Research Methodology

1.4.1. Article search method

To answer the first sub-question, "What is the aim of project Libra?". There are many articles write about the initiation that Facebook focus on when they want to present Libra to the world. Libra has its own website: <https://libra.org/en-US/> that shows all of its information for everyone to find and the congressional hearing on Youtube talk about Libra is also a valuable sources so there're already enough data to answer the first sub-question.

For the second sub-question, "What are the differences between Bitcoin and Libra?". First, to answer this question, it is crucial to give a fair view of Bitcoin and find out what

are the pros and cons Bitcoin have. While the information gathered from Bitcoin is correct because it has been existed for many years now. Libra is not, Libra is still in its phase of presentation which mean the data collected from is still assumptions and positive reactions from the Facebook CEO Mark Zuckerberg. There's not enough evidence to convince that what he said is true but it still possible to compare Libra with Bitcoin with information gathered from the white paper.

As for the third sub-question, "What are the differences between stablecoins and Libra?". There are different stable coins out there like USD Coin (USDC), Paxos Standard (PAX), Tether (USDT) to compare with Libra. These coins also have their own website to search for information but in the limitations (see 1.3), I will take Tether as an example to compare with Libra and information about it can be found on the white paper and also on Youtube channel Coin Bureau, there are videos of comparison between stablecoins that can give a deep understanding about it. From there gain a deeper knowledge about the stable coin and find out whether Libra is a stable coin or not and if it is, what are the differences between them.

And lastly, for the final sub-question "What is the initial reaction from the authorities to project Libra?". There are articles and Youtube channel about the Congress Hearing where Facebook CEO Mark Zuckerberg will testify before the United States House of Representatives Financial Services Committee regarding Libra. From there, it will show how the government reacts when the newest Facebook cryptocurrency prevails to the world.

1.4.2. Identification of key word

To retrieve the relevant articles, the following keywords are used in various combination: "Strenght of project Libra", "Centralized and decentralized system", "Bitcoin and Libra", "Stable coin and Libra", "Goal of Libra", "Obstacles project Libra is facing", "Reaction from US Congress", etc.

These keywords are primary when finding information about project Libra and its competitors, use it in order will help finding information much easier and gain better understanding of the cryptocurrency world.

1.4.3. Selection of Engines

Google Scholar will be the most efficient engine to find relevant articles through its mass community and vast library, Academia.edu is also a reliable source of finding related documents from famous professors, researchers or scientists but it's a pay website so the amount of documentation to read is limited not like Google Scholar when it's a free version so anyone can have full access to its huge library and everyone can upload their research without additional fees.

1.4.4. Selection and number of articles

To narrow down the articles and information related to project Libra, it would be efficient to choose the most rated article or base on the author's popularity. Unlike other cryptocurrencies that have existed for a really long time, Libra is still in its state of presentation so there won't be a huge library of articles to choose from but it won't bring mass confusion.

1.4.5. Research method for other media

Besides searching articles from Google Scholar, there are other media like blogs or vlogs from Youtube or News from CNBC and CNET. On Youtube, a channel called Coinbureau explains really deep about digital money and the differences between each coin. CNBC and CNET post a lot of news about technology around us so there will be some useful articles to read.

1.5. Research Objective

The primary objective of this research is to find out the motive of project Libra, what is it that makes Libra different from other cryptocurrencies and how will it compete with them. From there, give an argument that will it be successful or not and answering questions that Prof. Jan Veuger has been asking about.

Chapter 2: Theoretical Framework

A building is nothing without a foundation, this chapter will apply the theory from the whitepaper of Bitcoin and Tether to develop a foundation strong enough to help answer the main and sub-questions for the next chapter. Also, gives a timeline of important historical events to better know about each coin past for further understanding.

2.1. Definition

2.1.1. Bitcoin

Bitcoin is a digital currency that was first introduced in January 2009 described as “A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution” (Nakamoto, 2008). It is created by Satoshi Nakamoto who is still a mystery to the world, Bitcoin is completely decentralized, offering a form of anonymized transparency thanks to a digital, publicly available ledger of transactions known as a blockchain (Bitcoin, n.d.). Bitcoin offers the promise of lower transaction fees than traditional online payment mechanisms and is operated by a decentralized authority, unlike government-issued currencies. (Frankenfield, 2020)

Bitcoin is fully open-source and decentralized. This means that anyone has access to the entire source code at any time (General, n.d.) and there are no physical Bitcoins, only balances kept on a public ledger. Bitcoins are not issued or backed by any banks or governments, nor are individual Bitcoins valuable as a commodity (Frankenfield, 2020). Bitcoins are generated by users running a special computer program, in a process called “mining.” Each new bitcoin that is “mined” requires exponentially more processing power to create (Bitcoin, n.d.). To see full definition of Bitcoin, the whitepaper will show all the information needed for a deep understanding

[\[https://bitcoin.org/bitcoin.pdf\]](https://bitcoin.org/bitcoin.pdf).

2.1.2. Tether

Tether, as it is known today, was launched in November 2014, after it was rebranded from the original project Realcoin. The project was initially founded by Bitcoin Foundation director Brock Pierce, alongside software engineer Craig Sellars, and entrepreneur Reeve Collins. The premise of the cryptocurrency was simple, to provide a utility token that represented certain fiat currencies at a 1:1 ratio, with the benefits of cross-border payments facilitated by blockchain technology (Jenkinson, 2018).

Tether (USDT) is a cryptocurrency with a value meant to mirror the value of the U.S. dollar. The idea was to create a stable cryptocurrency that can be used like digital dollars.

Coins that serve this purpose of being a stable dollar substitute are called “stable coins” (What is Tether?, n.d.). Tether converts cash into digital currency as “Each tether unit issued into circulation is backed in a one-to-one ratio (i.e. one Tether USDT is one US dollar) by the corresponding fiat currency unit held in deposit by Hong Kong based Tether Limited”. Like other cryptos it uses blockchain, unlike other cryptos, according to their official site, it is “100% backed by USD” (USD is held in reserve). You can check its whitepaper through this link:

[\[https://tether.to/wp-content/uploads/2016/06/TetherWhitePaper.pdf\]](https://tether.to/wp-content/uploads/2016/06/TetherWhitePaper.pdf)

2.2. Historical events

2.2.1. Bitcoin

2008 – The Mysterious Mr. Nakamoto

A paper called Bitcoin – A Peer to Peer Electronic Cash System was posted to a mailing list discussion on cryptography. It was posted by someone calling themselves Satoshi Nakamoto, whose real identity remains a mystery to this day.

2009 – Bitcoin begins

The Bitcoin software is made available to the public for the first time and mining – the process through which new Bitcoins are created and transactions are recorded and verified on the blockchain – begins.

2011 – Rival cryptocurrencies emerge

As Bitcoin increases in popularity and the idea of decentralized and encrypted currencies catch on, the first alternative cryptocurrencies appear. These are sometimes known as altcoin and generally try to improve on the original Bitcoin design by offering greater speed, anonymity or some other advantage. Among the first to emerge were Namecoin and Litecoin. Currently there are over 1,000 cryptocurrencies in circulation with new ones frequently appearing.

2013 – Bitcoin price crashes

Shortly after the price of one Bitcoin reaches \$1,000 for the first time, the price quickly begins to decline. Many who invested money at this point will have suffered losses as the price plummeted to around \$300 – it would be more than two years before it reached \$1,000 again.

2014 – Scams and theft

Perhaps unsurprisingly for a currency designed with anonymity and lack of control in mind, Bitcoin has proven to be an attractive and lucrative target for criminals. In January 2014, the world's largest Bitcoin exchange Mt.Gox went offline, and the owners of 850,000 Bitcoins never saw them again. Investigations are still trying to get to the bottom of exactly what happened but whatever the story, someone dishonestly got their hands on a haul which at the time was valued at \$450 million dollars. At today's prices, those missing coins would be worth \$4.4 billion.

2017 – Bitcoin reaches \$10,000 and continues to grow

A gradual increase in the places where Bitcoin could be spent contributed to its continued growth in popularity, during a period where its value remained below previous peaks. Gradually as more and more uses emerged, it became clear that more money was flowing into the Bitcoin and cryptocurrency ecosystem. During this period the market cap of all cryptocurrencies rose from \$11bn to its current height of over \$300bn. Banks including Barclays, Citi Bank, Deutsche Bank and BNP Paribas have said they are investigating ways they might be able to work with Bitcoin. Meanwhile the technology behind Bitcoin – blockchain – has sparked a revolution in the fintech industry (and beyond) which is only just getting started.

(Marr, 2017)

2.2.2. Tether

2014 – Bitcoin Foundation director and former child actor Brock Pierce announces Realcoin, a cryptocurrency backed by U.S. dollar value. Realcoin is built on Mastercoin (now called Omni), a protocol that runs on top of Bitcoin. Pierce founds the company along with software engineer Craig Sellars and entrepreneur Reeve Collins. Realcoin

rebrands to “Tether,” stating it wants to avoid association with “altcoins.” At the same time, the company announces several partners, including Bitfinex.

2015 – Tether begins trading at Bitfinex, but the amount of USDT in circulation remains relatively flat throughout 2015 and 2016.

2016 – This is the time of crisis for Tether and Bitfinex after Bitfinex loses 1,500 bitcoin, worth \$400,000 at the time, when its hot wallets, connected directly to the internet, are hacked. After that, in the second-largest digital currency exchange heist in history at the time, Bitfinex is hacked when a thief gets away with nearly 120,000 bitcoin, worth around \$75 million at the time. Tether is hacked and 31 million USDT (worth an equivalent amount in U.S. dollars) are moved from the Tether treasury wallet and sent to an unauthorized Bitcoin address.

2017 – Wells Fargo, the last bank willing to process Bitfinex transactions, cuts off all services to Bitfinex and Tether. Bitfinex announces it has paid off all the debt incurred from the August hack, by redeeming all of the dollarized BFX tokens it issued during the haircut. BFX trading is halted and any remaining BFX tokens are destroyed. After a difficult time in 2016, Tether and Bitfinex face numerous accusations regarding its activities which people think is a hoax.

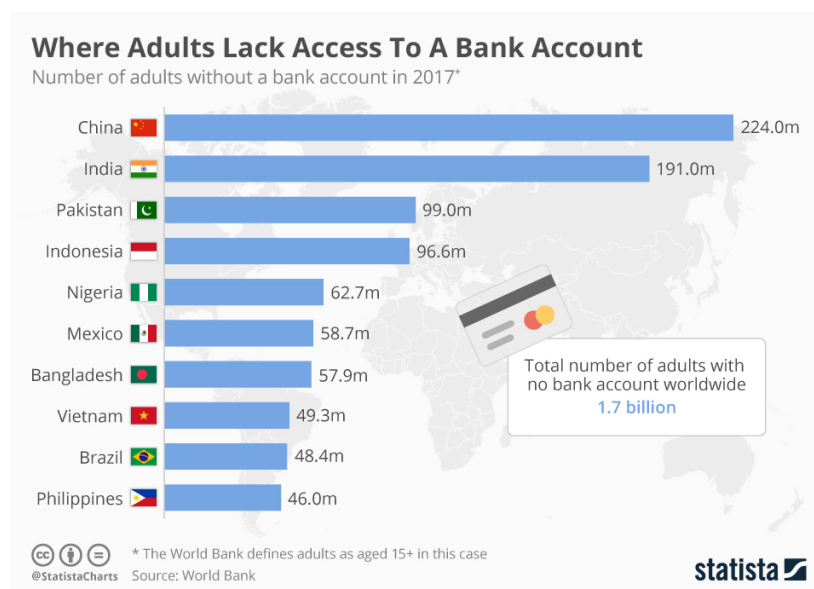
2018 – In the first month of the year, Tether issues 850 million new tether, more than any month prior and after five months of stating an audit was forthcoming, Tether parts ways with auditor Friedman LLP. (Castor, 2018)

Chapter 3: What is the aim of project Libra?

There are approximately 5,392 cryptocurrencies being traded with a total market capitalization of \$201 billion (as of April 22, 2020) (Knight, 2020). As we see, there has been a lot of cryptocurrencies that is currently existed and in 2018, about 1,000 different cryptocurrencies have failed (Perez, 2019). Facebook plans to launch its own digital coin with an ambition to be a global currency for everyone. Although Facebook has been one of the tech titans of the world for many years, we cannot deny the fact that it is still very difficult to compete with other cryptocurrencies not to mention Bitcoin. What is the aim of project Libra that Facebook think will make a different despite other competitors?

3.1. Access of Financial services

“Large swaths of the world’s population are left behind — 1.7 billion adults globally remain outside of the financial system with no access to a traditional bank, even though one billion have a mobile phone and nearly half a billion have internet access” (Members, An Introduction to Libra, 2019), the major problem existed in the current banking system is that there are still lots of peoples who don’t have access to traditional bank. Libra priority was to empower these people with financial service through their smart phone without interference of traditional bank.



[Source: World Bank 2017]

3.2. Lower cost

“Today, people with less money pay more for financial services. Hard-earned income is eroded by fees, from remittances and wire costs to overdraft and ATM charges. When people are asked why they remain on the fringe of the existing financial system, those who remain “unbanked” point to not having sufficient funds, high and unpredictable fees, banks being too far away, and lacking the necessary documentation” (Members, An Introduction to Libra, 2019). The designers of Libra clearly believe that many more people should have access to financial services and to cheap capital. They also believe that global, open, instant, and low-cost movement of money will create immense economic opportunity and more commerce across the world as they said “This approach can deliver a giant leap forward toward a lower-cost, more accessible, more connected global financial system” (Members, Libra White Paper, 2020)

3.3. Stablecoins

While Bitcoin is fluctuated over time which will be a suitable choice for investor, Facebook wants Libra to be a stablecoin so it will give people and businesses the ability to transact in a stablecoin denominated in their own currency “We are augmenting the Libra network by including single-currency stablecoins (e.g., \approx USD, \approx EUR, \approx GBP, etc.) and planning to increase the number of single-currency stablecoins over time” (Members, Libra White Paper, 2020).

3.4. Conclusion

The aim of project Libra is very typical as other cryptocurrencies also wants to be a global currency for everyone. Although Facebook have a bad reputation of leaking personal's information, one strength that Facebook have over its competitors is its massive social platform with over 2 billion monthly active users across the world (Clement, 2020) and that is a quarter of the human population. With its popularity, Libra aim off becoming a global currency for everyone is more promised than other cryptocurrencies because

people will easily adopt to a new product from Facebook rather than other digital coin that they never heard of.

Chapter 4: What are the differences between Bitcoin and Libra?

Since its introduction in 2009, Bitcoin regularly appears in the media headlines and has now become one of the most popular cryptocurrencies in the world. According to research by Cambridge University, between 2.9 million and 5.8 million unique users used a cryptocurrency wallet in 2017, most of them for bitcoin. Currently, there are over 42 million bitcoin wallets according to data compiled by Statista in 2019. What are the differences between Bitcoin and Libra that Facebook think can beat it opponent in the long run?

4.1. Money supply

By comparison, Bitcoin is permission less, fully decentralized, deflationary and volatile. Libra is permissioned, more centralized, governed by supply and demand and pegged to fiat currencies. Bitcoin has a fixed supply which cannot react to the market's demand. The total number of bitcoins that will ever exist is "hard-capped" at 21 million. Libras are created or burned when one of Libra's authorized resellers deposit or withdraw money from its reserve (Browne, 2019)

4.2. Value

Bitcoin is described as a "Peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution" (Nakamoto, 2008) means that Bitcoin value is not tied to any single government which makes it dependent while Libra is tied to national currencies and other stable financial assets as "Each single-currency stablecoin will be fully backed by the Reserve, which will consist of cash or cash equivalents and very short-term government securities denominated in that currency" (Members, Libra White Paper, 2020). When inflation happen, Libra value will drop just like fiat money while Bitcoin on the other hand still hold its ground on the market.

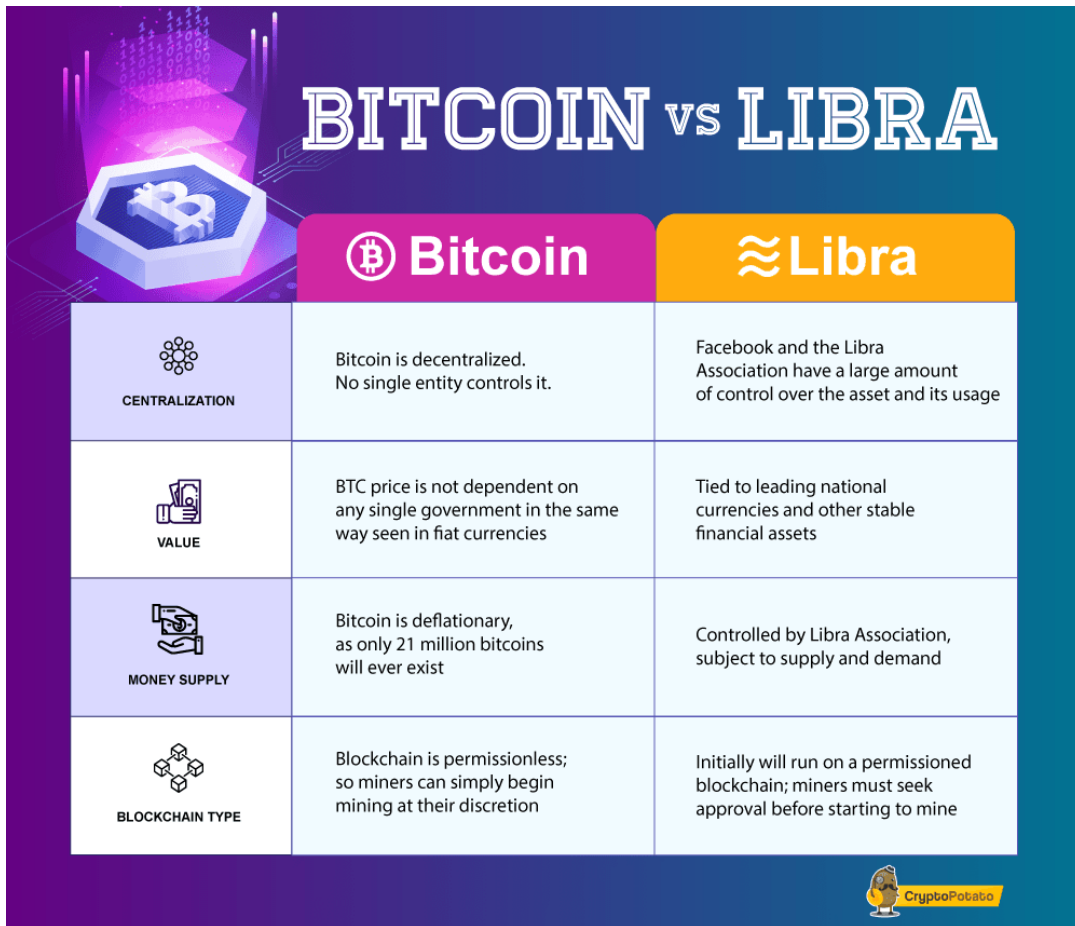
4.3. Blockchain type







With Bitcoin, transactions are recorded anonymously on a public ledger known as the blockchain. It is essentially a database maintained by a network of computers, on which transactions are secured in such a way that makes it virtually impossible to tamper with. Libra also uses a form of blockchain that is called Libra but strictly Libra is not a blockchain. The White Paper states that “unlike previous blockchains, which view the blockchain as a collection of blocks of transactions, the Libra Blockchain is a single data structure that records the history of transactions and states over time” (Browne, 2019).


4.4. Structure

Unlike Bitcoin, Libra’s blockchain is permissioned, meaning that transactions can only be added to it by a group of trusted parties. Libra will essentially create a centralized structure governed by an unelected association called Libra Association composed exclusively of large institutions who have purchased their voting rights. Whereas Bitcoin’s network is decentralized that can be accessed and maintained by anyone with decent enough hardware and access to the internet. Libra’s account can be confiscated while Bitcoin cannot because of its centralized structure which will be involved by third parties (Browne, 2019).

4.5. Conclusion



	 Bitcoin	 Libra
 CENTRALIZATION	Bitcoin is decentralized. No single entity controls it.	Facebook and the Libra Association have a large amount of control over the asset and its usage
 VALUE	BTC price is not dependent on any single government in the same way seen in fiat currencies	Tied to leading national currencies and other stable financial assets
 MONEY SUPPLY	Bitcoin is deflationary, as only 21 million bitcoins will ever exist	Controlled by Libra Association, subject to supply and demand
 BLOCKCHAIN TYPE	Blockchain is permissionless; so miners can simply begin mining at their discretion	Initially will run on a permissioned blockchain; miners must seek approval before starting to mine

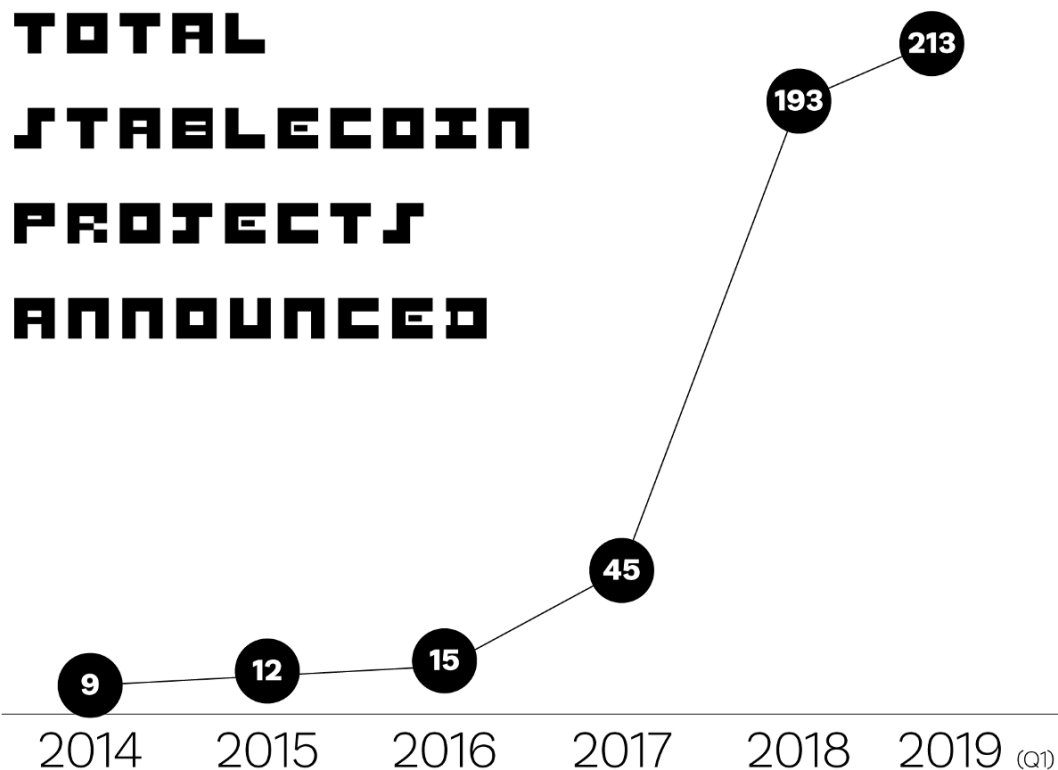


[Source: *CryptoPotato* Dec 15, 2019]

Beside that both Bitcoin and Libra are crypto assets that can be transacted as digital currencies, that is where the similarities end. Bitcoin and Libra are a lot different from each other regarding that they are both digital coin. As shown in the table of comparison between Bitcoin and Libra above, Bitcoin is more decentralized than Libra which will make Bitcoin more dependent and people will have no fear of inflation. Libra sole purpose is to become a digital money that can help people across the world do day to day transaction with ease and at lower cost than normal financial service. Although Libra is easier to use than Bitcoin, it is tied to the nation currency which in time of inflation, Libra value will also decrease with the fiat currency. Depend on customer, if they want to invest in cryptocurrency to gain profit in the future then Bitcoin is a good choice for them or they

just want to store their money safe and use it easily then Libra is a better choice than Bitcoin.

Chapter 5: What are the differences between stablecoin and Libra?



Source: Stable.Report, CementDAO

[Source: Stable.Report, CementDAO April 8, 2019]

213 is the total number of stablecoin projects announced since 2014. Of these, 59% are still conducting R&D and not yet trading, 29% are live and 11% are dead due to lack of funding, regulatory issues, or fraudulent behavior. As shown in the table above, 2018 has been the year of stablecoin with 147 projects announced throughout the year (CementDAO, 2019). The stablecoin market has saturated and Facebook wants to launch another stablecoin with the ambition of becoming a global currency. Let's take Tether as

an example which is one of the most popular stable coin out there to compare with Libra to see what are the differences between stablecoin and Libra that Facebook think is different with other competitors?

5.1. Blockchain type

Tether use Bitcoin blockchain as their main technology for the system “All tethers will initially be issued on the Bitcoin blockchain” (Tether: Fiat currencies on the Bitcoin blockchain, 2016) while Libra also use blockchain but have innovate into Libra blockchain as they said “The Libra payment system is built on the Libra Blockchain” (Member, 2020). They key differences between two technology is that Bitcoin blockchain is permission less which means that it won’t be tied to any government around the world “Allowing any two willing parties to transact directly with each other without the need for a trusted third party” (Tether: Fiat currencies on the Bitcoin blockchain, 2016). Libra blockchain on the other hand is permissioned which will be “Backed by the Libra Reserve of assets made up of cash or cash equivalents and very short-term government securities” (Members, Libra White Paper, 2020).

5.2. Value

The value of each Tether is said to be “Backed in a one-to-one ratio (i.e. one Tether USDT is one US dollar)” (Tether: Fiat currencies on the Bitcoin blockchain, 2016) meaning that USDT will only tie to the US dollar currency. Unlike most stablecoins, Libra is not pegged to one specific currency. Libra is pegged to a group of “low-volatility assets, including bank deposits and government securities” (Member, 2020) in multiple currencies, meaning that there just one Libra no matter where you live.

5.3. Structure

Tether is centralized in almost every part of its system. The company is subject to government action, as are its fiat reserves — so long as they are held in banks. Furthermore, the company has shown that it can reverse transactions and force hard forks (Tether Stablecoin: Can the Crypto Market Live Without It?, 2019). Although Libra uses the same consensus algorithm as other decentralized cryptocurrencies, it is still centralized (Singla, 2019). That’s because it is permissioned and trusted. With plans to

become permissionless and trusted in a few years, Libra may become decentralized, but that is the question in the future.

5.4. Conclusion

To say if Libra is a stablecoin or not the answer will be “could be” due to the fact that although it met the criteria a stablecoin have but it somehow breaks the rule and drive in a new way of stablecoin. “It will be backed by a collection of low-volatility assets, such as bank deposits and short-term government securities” (Wagner, Kharif, & Verhage, 2019) This means that Libra is not going to be completely non-volatile, but much less than other cryptocurrencies we know. Differing from most of the stable coins we know, Libra is not pegged to a specific currency. Whether or not in the future will Libra change anything of its protocol is a mystery as Libra is still a project and haven’t launch to the world yet.

Chapter 6: What is the initial reaction from the authorities to project Libra?

Facebook has been criticized for years about its past scandals about leaked personal’s information, misleading information, political ads, etc. Regarding its failure in the system, Facebook plans to launch its own cryptocurrency in the midst of sensitive time have raised a lot of questions for people and the United States House of Representatives Financial Services Committee is also intriguing with the project. On October 23, Facebook CEO Mark Zuckerberg has been invited to testified before the United States House of Representatives Financial Services Committee regarding Libra. The hearing was live on Youtube (Post, 2019). From there, we can see what is the initial reaction from the authorities to project Libra?

6.1. Opening statement

“Facebook’s plans to create a digital currency Libra and a digital wallet Calibra, raised many concerns relating to privacy, trading risk, discrimination, etc.” Chairwoman. Maxine Waters open her first statement raising problems around project Libra that Facebook has been criticized for past scandals. Chairwoman Waters then jumped up to the conclusion that Facebook should focus on solving any deficiencies before implementing project Libra “I’ve come up to the conclusion that it would be beneficial for all if Facebook concentrates

on addressing as many existing deficiencies and failures before proceeding any further on the Libra project". After a strong conclusion, Chairwoman Waters then listed every major failure from Facebook and every sue targeting Facebook from the past "Facebook has utterly failed the Facebook's executive ranks and workforce", "Facebook told us that they have \$0 managed by diverse firm", "On fair housing, Facebook has been sued by the National Fair Housing Alliance for enabling advertisers to engage in discrimination on its advertising platform", etc. Facebook has faced a rough start and those charges from Water also imply that Facebook should stop implementing project Libra.

6.2. Mark Zuckerberg testimony

Mr. Zuckerberg has his 5 minutes of testimony talking about the problems that not only U.S but also the world has been facing "As we sit here, there are more than a billion people around the world don't have access to a bank account but could through mobile phones if the right system existed", "People pay far too higher cost and have to wait far too long to send money home to their families abroad". Mr. Zuckerberg then has made his first statement that the current banking system is failing to provide people with access of a bank account "The current system is failing them, the financial industry is stagnant and there is no digital financial and architecture to support the innovation that we need". He believes that this problem can be solved by Libra as the idea behind it "Sending money should be as easy and secure as sending a message".

6.3. Tension in the hearing

The ranking member of the committee from North Carolina Mr. McHenry has his first opening statement comparing the technology of Libra as an "Terrorist attacks of September 11th". After a fearsome comparison from Mr. McHenry, Mr. Zuckerberg has reacted aggressively and the hearing has gone intense between the two. Further, Representative Carolyn Maloney, Democrat of New York also said that "You're creating a whole new currency, which could be anonymous, that could create a whole new threat to Americans and national security, which is a huge concern". Representative Ann Wagner, a Republican from Missouri, said she was troubled by Facebook's history of dealing with child pornography on the site. The company has reported discovering millions of exploitative images and videos. "You are not working hard enough, and end-

to-end encryption is not going to help the problem,” Ms. Wagner said. Mr. Zuckerberg acknowledged the difficulties of policing a global platform but was defensive as he was challenged on his company’s ability to respond” We work harder than any other company to identify this behavior” Mr. Zuckerberg said.

6.4. Conclusion

The future of Facebook's cryptocurrency project is in jeopardy as many of the companies initially attached to Libra have jumped ship after the hearing like Mastercard, Visa, eBay, Stripe, and Mercado Pago will all no longer participate in the Libra Association. The initial reaction from the authorities regarding project Libra is not in a good start for Facebook as every committees in the room try to point out its failures in the system and bring tension in the hearing. If Mr. Zuckerberg determine that Facebook will not launch Libra until the US regulator approved. Facebook needs to raise its reputation in the eye of public before proceeding any further projects as it is one of the tech titans of the world “With great power comes great responsibility”.

Chapter 6: Conclusion

Main question 1: What are the (dis)advantages that Libra bring to the world according to other currencies?

Although, Facebook has promised to use Libra completely anonymously and without accessing or stealing our transaction data itself, the past has taught us otherwise the value of such bland promises and taught us well. Whether the world will be fooled by Facebook or not, it is completely depends on what it has to offer and how the people will react to it. Here are the pros and cons of Facebook Libra cryptocurrency.

6.1.1. Advantages of Libra currency

❖ Easier and Cheaper Transaction:

Libra Association promises to make money transactions easier for everyone. With just a few clicks, you will be able to send money in any part of the world, faster than ever. With the collaboration between Libra and other big tech company likes Uber, Spotify, Mastercard, PayPal, etc. Soon after its launch everyone will be able to make payments

for almost every services out there. This also foresees the end of plastic money which can help the environment.

❖ **Targeting the Unbanked:**

To understand the underlying strength of cryptocurrencies and why Facebook's initiative could turn the tables in the future. First, we need to understand one of the most crucial issues facing the world at present.

According to Business Insider in August 2017 (Hodgson, 2017), around 2 billion people across the world didn't have a bank account. Let's dive into some more stats about the unbanked population:

- More than 20% of people receive wages / payments or government transfers in cash
- Many people in developing nations still pay their bills and school fees in cash
- Women make up 55% of unbanked population
- South East Asia alone has 438 million unbanked people – 73% of the entire population
- India – target market for Libra – is the home to about 190 million unbanked population, the second largest after China

According to a study by McKinsey (TAYLOR, 2016), reaching the unbanked population in this region could increase its economic contribution from \$17 billion to \$52 billion by 2030.

This is the size of the population Facebook's Libra will be able to reach and provide a decentralized digital financial system to.

❖ **Businesses & Brands could Increase their reach:**

Facebook has been a medium of information exchange. If money can now be transferred in the ecosystem of Facebook, it will make Libra more attractive and bringing more users. Both businesses as well as the potential customers will be spending more time on it.

This will make it a lot easier for businesses and brands to reach out to a larger set of audience. Moreover, by adopting Libra, businesses could avoid credit card transaction fees as well.

❖ **Will promote international trade:**

Facebook has become a very popular social media platform throughout the world so we can't deny the possibility that Libra will promote international trade and attract customers they were previously unable to reach out to.

Furthermore, this will bring in the support of all those people who at present can't make payments because they didn't own a credit card. This will, as a result, open a door for trading and business opportunities.

❖ **A safe way for storing money:**

Unlike Bitcoin, which as experts put it, is a highly unstable asset considering its value is determined based on investor and supply demand, Libra is attributed to real-world currencies for instance, pound.

Furthermore, due to its stability, Libra is being considered one of the best cryptocurrencies for trade purposes specifically. Not only will it be extensively accessible to pretty much everyone, but Libra will also be immune to any barbaric value fluctuations.

6.1.2. Disadvantages of Libra currency:

❖ **Politicians aren't very happy. In fact, they are scared!**

If it can give a politician a scare, it is definitely dangerous. They see Libra as a threat to the global financial system even though Libra coin exists only in the papers at the moment and will not be launched until next year. They fear it will be the emergence of an economic dystopia.

❖ **Wake-up call for banks:**

When it comes to payment transactions, bankers are alarmed as they are likely to lose market share if the bank customers move their amounts of credit from their accounts to the Libra world.

❖ **Libra-Cartel insiders could ‘exploit’ their access to information:**

Suppose having access to your account balance data, the Facebook’s subsidiary Calibra offers to vend a retailer an algorithm to jack up the price of a product, previously being sold at an affordable price.

The cartel having financial visibility into consumers as well as into businesses across the economy could be a monopoly on its own, in other words ‘perhaps it is the emergence of an economic dystopia’.

This is basically the reason why banking and payments are separated from the rest of the economy in the States.

❖ **Could it be a Systemic Risk?**

Many people – experts – are of the view that Libra system will open our economy to a systemic risk as it is backed by bonds and financial assets reserved at the Libra Reserve.

But what will happen if there is a theft or breach in the system?

(Chaudhry, 2019)

Main question 2: What is the outlook and impact of Libra project?

Since Facebook announced its Libra cryptocurrency, there has been a great deal of speculation on its impact, particularly on the financial industry. As a cryptocurrency that will provide financial access to the unbanked, Facebook Libra has great disruptive potential. Let’s take a look at some of the ways that Libra may disrupt the financial industry.

6.2.1. Reducing the number of Unbanked

Facebook is completely upfront about one of the ways that it hopes Libra will disrupt the current financial industry: by reducing the number of unbanked people. According to the Libra website, 31 percent of the world’s population of 1.7 billion people are currently unbanked. The website also states that those unbanked people pay an average of \$4 more per month. Via Libra, Facebook hopes to provide financial access to these

unbanked people, helping them take advantage of the opportunities typically reserved for those with bank accounts and saving them money.

6.2.2. Increasing the number of non-cash transactions

According to the Libra site, 85 percent of global transactions are currently conducted in cash. If Libra becomes popular, it would encourage this to change by providing a simple method of accepting non-cash payments.

On the Libra website, Facebook presents some indications of what could happen if everyone had access to digital financial services all around the world. These estimates indicate the potential creation of 95 million jobs, adding \$3.7 trillion to the developing economies, reducing extreme poverty by 22 percent, and improving earning potential by 20 percent.

According to Libra, a high level of cash transactions also makes it easier to commit fraud. The website cites that, on average, U.S. businesses lose \$40 billion annually from fraud. Libra implies that this is due to the difficulty of tracing cash. By contrast, digital transactions are much easier to trace, reducing the risk of fraud and potentially saving businesses billions each year.

6.2.3. Speeding up transactions

Libra also has a great deal of potential in terms of transaction speeds. One of the figures cited on the Libra website is that the typical cross border transaction takes between three and five business days. By contrast, most digital currencies can complete cross-border transactions in a fraction of the time, sometimes minutes or hours. Even some domestic transactions will take days.

6.2.4. Reducing or eliminating international fees

Libra cites data that the average international transaction currently comes with a fee of around 7 percent. As a digital currency, Libra should not have any separate international fees apart from the typical nominal transaction fee. This is possible since it cuts out the intermediaries — the financial institutions that charge those high fees. This would allow for seamless border transactions and encourage cross-border buying and selling, boosting economies.

6.2.5. Potential data privacy issues

Using other cryptos, like Bitcoin or Ethereum, can provide privacy since they will not display personal information. In addition, there are also fully private cryptocurrencies available. As such, it seems likely that, if done correctly, Facebook Libra could improve data privacy in regard to financing. If done incorrectly, the fear of exposing personal's information to other will tear Libra apart and lose trust in customer. In either case, there is certainly potential for disruption to this aspect of the financial industry.

6.2.6. Disrupting central banks

One of the main concerns of those in the financial industry is the ability of Libra to disrupt central banks. Each country has its own central bank. In most developed countries, these are well established and may not face too many threats from Libra. In the developing world, however, central banks may face major challenges with Facebook Libra.

The worry is that people in developing countries with unstable currencies will not use their own currency if they have a more stable alternative. This could potentially pose a problem for the central banks in those countries if enough people prefer the more stable Libra instead of the local currency. This could have far-reaching consequences for the local economies and governments.

(Danihel, 2019)

Chapter 7: Disclaimer

As of now, cryptocurrency is still a very debating topic and when the world of digital coin has become saturated with thousands of different cryptocurrencies out there. Facebook plans to create another one is somehow very interesting. Although we cannot deny the fact that Facebook is very popular throughout the world for its huge social media platform, the decision to battle other digital coin for the position of becoming a global stablecoin is very difficult.

Facebook has faced numerous accusations of faulty system that leaked personal's information which lead to losing customer's trust. This affect a lot to customer's decision if they want to use Libra or not. In my own study, while the European is very sensitive to their private information, the Asian is not. The Asian knows that Facebook will collect their

personal's information when they first download the app so they have a choice whether to accept it or not and people who accepted that term will fully be responsible for their own action. The European will not accept any kind of operating system that sell or manipulating personal's data.

One major point that I think the Asian will adopt Libra is because the current banking system is very complicated and time consuming when it comes to executing payment and transaction. Which is why, Libra can be a great choice for those who is looking for a more sufficient system with fast and easy services.

In conclusion, to think whether project Libra can be successful or not, my answer would be yes. Although Facebook has been criticized for their system in the past, it's still one of the tech titans of the world and with its reach to billions of people, Libra will be adopted by everyone very easy. People are in needs of a system that can help them transfer money with ease and at low cost when the current banking system is so costly and failing them. With Facebook's popularity, I think that they can achieve their goal of becoming the global cryptocurrency for everyone.

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