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THE CRYPTO EFFECT ON CROSS BORDER TRANSFERS AND FUTURE TRENDS OF CRYPTOCURRENCIES

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Abstract

This paper presents a theoretical and empirical outlook on different aspects of various cryptocurrencies, blockchain technology including the evolution of digital tokens and how they widely affect the financial markets, organizations, banks, governments via analyzing the characteristics and current history of cryptocurrencies alongside with blockchain technology. The choice of this topic was motivated by the fact that the virtual money concept and blockchain technology are utterly new phenomena. This new technology is completely decentralized making the subject worthy of scientific research.The paper solely focuses on analyzing how cryptocurrencies currently affect the financial markets and the future trends of these virtual tokens in the global economy. The study is keen to further examine the impact of Bitcoin and other cryptocurrencies on international fund transfers. Literature review and case study with up-to-date data has been included in the analysis. The following results have been obtained: cryptocurrencies offer a wide range of features such as faster, cheaper and more secure cross-border money transfers that can also provide anonymity. Most crypto tokens are highly volatile due to their nature and various other factors. Cryptocurrencies could provide more beneficial options for users on cross border transfers compared to traditional methods of fund transfers. Cryptocurrencies might have the potential to replace paper money and gain mainstream recognition throughout the world. The study sheds light onto current and future trends of cryptocurrencies and blockchain. It is outlined for the crypto, financial, economic field.

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Introduction

Cryptocurrency is defined as a virtual currency which is considered an electronic asset (see: https://www.investopedia.com/terms/v/virtual-currency.asp). The cryptology concept is used to create such currencies with encryption on the basis of number theory and mathematics. Crypto coins work on the same logic as bank transactions. There is no actual money taken ou of the bank vault and only numerical changes happen in the systems (see: Phillip *et al.,* 2018). The factors that make cryptocurrencies interesting is that they cannot be controlled by any third-party organizations such as governments, corporations or banks which can make getting involved risky. With this new technology and the possibilities brought by different cryptocurrencies, the door is opening for financial fraud or scams. Criminal activities using crypto tokens, cyber-attacks on electronic wallet providers, and money laundering are some examples (Kethineni & Cao, 2020). Due to the core nature of crypto tokens, transactions are carried out by those who are contributing to the cryptocurrency networks and taking part in the cryptographic system. It is possible to take part in a cryptographic network with the necessary equipment that provides enough computing power and if it is not against the law within the country one resides in. On the other hand, cryptocurrencies offer various transactions including international fund transfers, smart contracts, a system to build applications, personal and commercial investment, etc. (Reeves, 2017). With its organic nature virtual assets (like Bitcoin) are able to provide anonymity, encrypted security, fast transactions and a decentralized network for its users as well as contributors. With that possible, users are able to take full control of their personal or commercial funds and financial situation. This is just an example of what crypto tokens are capable of (Bouoiyour & Selmi, 2016).

Blockchain is a technology which can be used anywhere that contains data (see: https://builtin.com/blockchain). This system is used in blocks and distributed making it impossible to track since the information received is not to be accessed or manipulated by anybody until the point where it reaches the other party (Crosby et al., 2016). In order to reveal the data, a decryption code should match the encrypted data. The accuracy of this process is provided by the people who are called miners and take part in the network by mining different crypto values. Crypto tokens such as Bitcoin and Litecoin are direct products of the blockchain technology whereas not all cryptocurrencies are based on blockchain (Göbel et al., 2016).

This paper focuses on two research questions one of which determines which methods in processing international transfers are better for users considering overall metrics and the second is whether cryptocurrencies hold a bright future in the financial world, by analyzing solid data on the global acceptance of various cryptocurrencies and crypto-based applications including e-commerce. Cryptocurrencies might have the potential to change the way the world works economically speaking (see: Corbet et al., 2019). The expectations in this research are to determine the possibilities cryptocurrencies have to offer considering international money transfers alongside future predictions on different kinds of cryptocurrencies based on the data collected throughout the study.

Literature review on cryptocurrencies and worldwide money transfers

In order to correctly measure the worldwide recognition of cryptocurrencies and to determine whether cryptocurrencies are able to provide a better concept of international fund transfers, it is necessary to deeply analyze different features of these virtual assets based on volatility, speed of transaction, transfer related costs, security and privacy (Durbin & Ronca, 2015). Furthermore, global acceptance and future potential of cryptocurrencies are still in question. Thus, this part of the paper will concentrate on literature review of aspects devoted to future trends and economic potential of cryptocurrencies and possibilities virtual assets present for international fund transfers (see: Fuentes et al., 2012; Hansen et al., 2011).

Bitcoin is an electronic payment system which is merely based on cryptographic proof instead of trust, allowing any two willing parties to engage directly with each other without the need for a trusted third party, making the system completely decentralized (Sasson et al., 2014). Cryptocurrencies, especially Bitcoin, have gained popularity when it comes to fund transfers globally. As Bitcoin and other virtual assets continue to reach wider recognition, more cryptocurrencies are being issued for different purposes resulting in the possibility for increasing engagement with a broader audience (Eyal & Mirer, 2018). These researchers found out that with the peer-to-peer electronic cash system which comes with Bitcoin (BTC), it is possible to process international transfers with Bitcoin indicating that those transactions can be safer than traditional methods in comparison to services provided by third party organizations. With such a system at hand, the double-spending problem using a peer-to-peer distributed timestamp server to generate computational proof of the chronological order of transactions would not be an issue. The system is secure as long as honest network contributors collectively control more

computing power that is mainly dependent on a Central Processing Unit (CPU) than any cooperating group of attacker nodes which may try to hack into the system. Nakamoto (2009) proved that Bitcoin (BTC) as an electronic cash system is able to process faster transactions than traditional methods of fund transfers processed both internationally and nationwide with its features like multiple digital signature and key encryption. Transactions can be completed within 10 minutes. It is also possible that the process takes longer due to the number of confirmations requested by the second party receiving the cryptocurrency (Reeves, 2017).

The most trending and popular cryptocurrency Bitcoin, alongside numerous other virtual coins, offers a wide range of options when it comes to cross border money transfers. It is possible to move a large or small amount of funds internationally with little to no cost. Bitcoin is the most commonly used method of transactions as the leading cryptocurrency. Simser (2015) reveals how cheap international transfers can be if cryptocurrencies are used in such transactions. Due to the fact that the sending party does not need to cover any fees for a 3rd party organization, the cost related to sending or receiving funds via cryptocurrencies such as Bitcoin, Ripple, Ethereum could be as low as 0,00005 USD. However, there are other factors that can manipulate the cost of transfers as well. Amount of the transfer, network workload, or combined transfers can change the price of the transactions (see: Verdier, 2018).

Bitcoin and other cryptocurrencies such as Ethereum (ETH), Ripple (XRP) take their place as the best crypto tokens to transfer money. The reason being that with the option to develop the procedure of fund transfer with a lower cost followed by other benefits such as faster transaction completion time alongside the security of a cryptographic system and the anonymity it provides to its users is unbeatable in today's economic world (Polasik et al., 2015). They point out how cryptocurrencies provide anonymity and cheaper prices of transactions. Digital assets do not require users to give out identities when sending or receiving cryptocurrencies. The transaction is always encrypted and anonymous. Also, the data related to the process is stored in the blockchain.

Cryptocurrencies have already moved past the first adoption phase that new technologies experience. Even motor vehicles experienced this phenomenon. Bitcoin has begun to carve itself out a distinct segment market, which could help advance cryptocurrencies further into becoming mainstream (Narayanan et al., 2016). Cryptocurrencies are still in their infancy, and it's difficult to state whether they're going to ever find a true mainstream presence in world markets. Farfield (2014) found that although the concept of virtual assets is new to the financial world, cryptocurrencies have shown potential for gaining major acceptance globally and could continue to do so with the demand in the market on a constant rise.

The Bitcoin community is striving to push into the mainstream through innovation and solving old problems. Other sorts of cryptocurrencies have already emerged and have gained followings of their own, each slightly different from Bitcoin and arguably as valid (see: Bohr & Bashir, 2014). Some nations like Iceland have even started their own national cryptocurrency. Hofman (2014) has found out that the leading cryptocurrency Bitcoin and its derivatives might be dominating the crypto market for being the first of many. However, other cryptocurrencies such as Ethereum, Litecoin, or Ripple have started to receive their piece of the market capitalization creating alternatives to enhance the cryptocurrency experience which greatly affects the global recognition of cryptocurrencies positively (see: Ciaian & Rajcaniova, 2018). It is possible that the long-term possibilities hold potential for cryptocurrency as a serious currency solution, and Bitcoin is going to be instrumental in paving the way for those currencies to flourish. The European and Latin American markets are exploding with Bitcoin transactions, signifying true validity. Zohar (2015) presents the phenomenon of how cryptocurrencies grow their user base throughout the world by providing alternative solutions to the public problems with third party organizations like banks, governments, or other organizations which results in more cryptocurrencies being issued by banks, companies, or governments. The outcome is reversed growth and usage of cryptocurrencies.

One area where blockchain technology is likely to possess a big impact is the financial sector. Blockchain, as a sort of distributed ledger technology (DLT), has the potential to rework well-established financial institutions and convey lower costs, faster execution of transactions, improved transparency, auditability of operations, and other benefits covered by Adrianto & Diputra (2017).

Moreover, cryptocurrencies hold the promise of a replacement as a native digital asset class without a central authority (Baek & Elbeck, 2015). Authors in their research have proven that blockchain technology that backs the Bitcoin and several other cryptocurrencies allow the process of transfer without the necessity for third parties; the blockchain technology lets the process happen quicker and more efficiently.

A vast change in the crypto industry is forthcoming as institutional money enters the market. Moreover, there is the likelihood that cryptocurrencies are going to be floated on the NASDAQ, which might further add credibility to blockchain and its uses as an alternate to standard curren-

cies. Some experts predict that cryptocurrencies may become a verified exchange traded fund (ETF) (see: Bakar & Rosbi, 2017). Authors of the research have found that an ETF would definitely make it easier for people to take a position in Bitcoin and other cryptocurrencies. However, there still must be enough demand to require taking a position in virtual assets, which could not automatically be generated with a fund.

Ongoing subjects for research about Bitcoin and other cryptocurrencies are quite numerous. Extensive studies should be performed on the economic effects of Bitcoin on long-standing fiat currency performance and compare the results to countries that are starting to adopt state-sponsored cryptocurrencies (DeVries, 2016). This researcher found that the power for cryptocurrency to perform micro transactions may allow it to bridge an economic gap that traditional state sponsored currencies wouldn't be ready to solve but requires a much deeper market and economic analysis to determine. Beck (2018) proves the point where blockchain technology that acts as Bitcoin's backbone has potential uses in other ways, such as smart contracts. These contracts are programmed payments that occur when a group condition occurs. Predetermined payment contracts are normally administered by a whole accounting department of a company, making this a particularly fascinating topic of further transformation assisting the growth in usage of cryptocurrencies and determining the future trends of virtual assets (Corbet et al., 2019; Yilmaz & Hazar, 2018).

Cryptocurrencies are a product of using cryptography to make a digital property. The frontier of digital assets was popularized by the music industries shift to a cloud-based infrastructure. This frontier remains fairly new and unexplored, mainly populated by differing types of media. Other sorts of digital property may become as popular as music and cryptocurrency. Eight years ago, digital money was completely unprecedented, and therefore the creator of Bitcoin single handedly changed that, forming the basis for brand new virtual assets that have been considered by Bulut (2018) as well as Wang et al., (2020).

Literature review demonstrates two research problems. One of them is the lack of analysis in order to determine whether cryptocurrencies are to gain worldwide acceptance, user growth and the completion of a hefty amount of transactions completed in the near feature. For example, support from banks, governments and firms in case there may be the problem of risking the qualities that make cryptocurrencies different than fiat money. The other research issue is the gap on knowledge on international transactions relying on crypto-based applications and the types of factors to prove whether transfers via cryptocurrencies provider wider possibilities compared to third party service providers.

Data and research methodology

Metrics and analysis have been prepared with the data provided by the World Bank with the most up to date information on the basis of the year 2020, and the case study research method was implemented in order to determine the possibilities cryptocurrencies have in store when it comes to international fund transfers and to provide a comparison to traditional remittance services. The factors classified as speed, cost, accessibility of transactions with crypto tokens and other methods provided by third party service vendors are presented in Figure 1, Tables 1 and 2.

The research methods used in this article are critical analysis and forecasting of the future of cryptocurrencies and their global acceptance. This article also uses a case study to compare traditional remittances with the cryptocurrency alternative. Also, the future trends of these virtual tokens in the global economic industry containing e-commerce are researched through the article and illustrated in the figures shown in the findings section.

Data was extracted from CoinMarketCap, Bitinfocharts, CoinMap and the author's own study concerning different cryptocurrency statistics based on the international endeavors with the engagement of countries from all over the globe. Acceptance and usage of various cryptocurrencies are analyzed throughout the world with real-life numbers forming the data used in the study between 2015-2020 which ultimately allows a measurement of the future potential of cryptocurrencies, e-commerce, and remittance services as presented in the findings section.

Advantages of the case study incorporate information assortment and examination inside the setting of a phenomenon, integration of qualitative and quantitative data in analysis, and the capacity to catch complexities of real-life circumstances so the context can be concentrated in more prominent degrees of profundity which represents high compatibility with such research subjects. Furthermore, case study methods allow us to analyze and compare detailed, complex and specific topics such as the research aim and questions of this paper.

The case study takes into account the current issues of cryptocurrencies with an outlook on the future trends of Bitcoin alongside other cryptocurrencies (see: Barak & Rosbi, 2017; Harrigan et al., 2017). The case study implemented in the related chapter provides a brief introduction to the topic by requiring a point to be proven that is respectively supported with trustworthy data as well as the author's own input, interpreting the overall situation of the specific matter in order to come up with a realistic

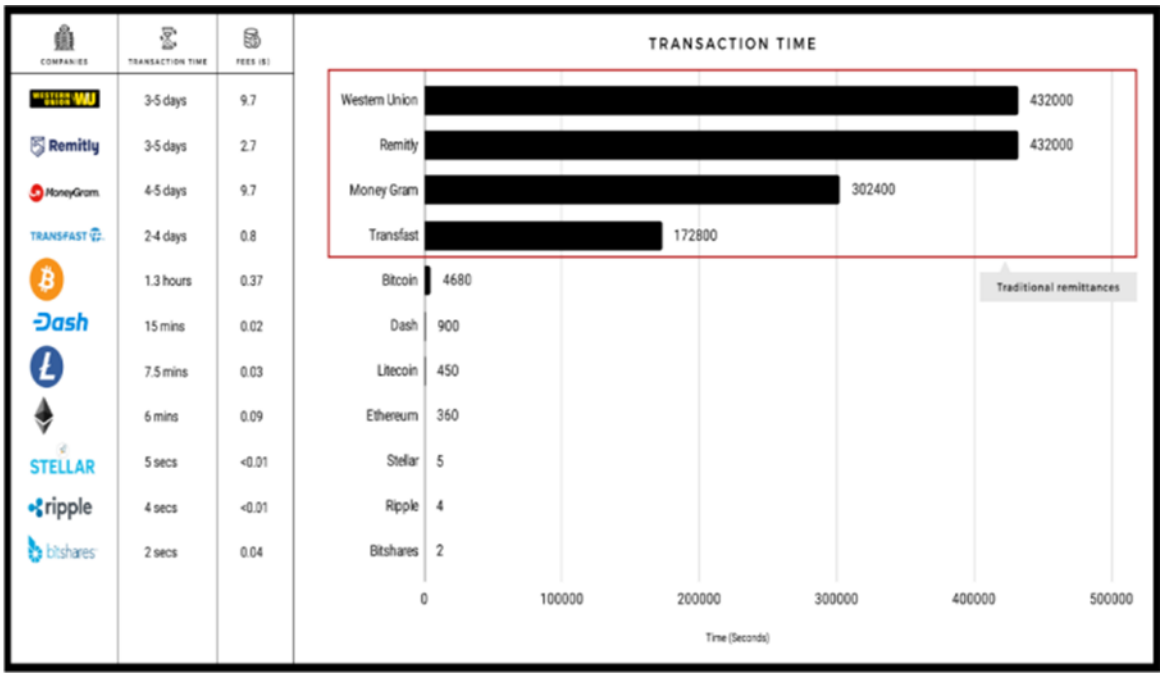
assessment and solution contributing to further research on the subject.

Discussion and findings

Analysis of the findings through critical analysis and case study have been underlined with forecasting to present a research gap and prove a point with the data extracted for case study from the World Bank. A global acceptance map for cryptocurrencies is provided in Figure 3. Cryptocurrency effect on improving cross border transfers and possible future trends are covered in this chapter.

The research states the factors that massively present impact on the role of cryptocurrencies in improving cross border transfer and considering different types of traditional methods of fund transfer in comparison to blockchain-based cryptocurrencies, especially Bitcoin as the leading virtual peer-to peer cash system are shown in Figure 1.

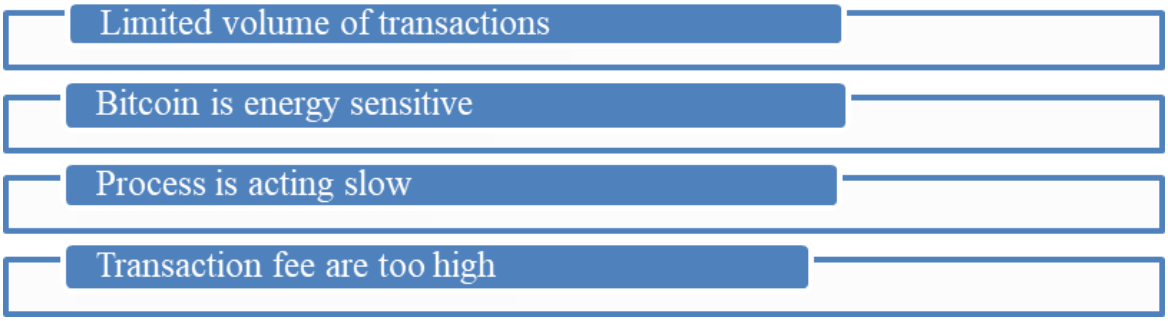
Figure 1: Cryptocurrencies and traditional remittance transaction time & fees



Source: World Bank Data: https://blockdata.tech/insights (18.08.2020)

Commercial banks and the organizations which provide money transfer services function mostly on commissions and exchange rate of the foreign currency used in each transaction, making the traditional technique covering cross border transfers perhaps not the best of options available. For instance: fund transfer companies like Western Union or PayPal charge about 1-2 USD per transaction as the bank withdrawal fee. This part is reasonable for the most part. However, third party service providers such as PayPal, MoneyGram, or Western Union make their main profit on the foreign currency exchange rate that drives revenue for the organization processing such transactions. Transferring funds via traditional methods might cost the sender 4-5% of the initial amount, making 95% available to withdraw by the receiving party. This fact presents the phenomenon of why the traditional methods of money transfers are on the verge of failing to provide the benefits that cryptocurrencies can offer. As a result, third party service providers such as PayPal or MoneyGram are limited against the cryptocurrencies. On the other hand, cryptocurrencies like Bitcoin can make a transfer amount of about 250 million USD with a fee ranging from 0-1 dollars presenting a huge difference compared to any traditional methods like bank transfers and third part handlers. Blockchain has fully adapted its system in cross border payments eliminating certain risks including present currency and political risks together with elevating the speed of transaction which can indicate that cryptocurrencies offer wider possibilities and better options in terms of international fund transfers (Khan & Salah, 2018).

Figure 2: Solved issues of transfers processed with Bitcoin



Source: Own study

Figure 2 presents the problems with Bitcoin transfers that may impact the functionality of cryptocurrencies based on the international fund transfer industry. Nonetheless, the issues stated in the above figure are possible to overcome with the innovative system of cryptology and blockchain. Nowadays, cross border transfers made with BTC or any other cryptocurrencies are processed without those problems. Current developments on improving the functions of crypto tokens related to money transfer issues are being undertaken, meaning the issues related to international fund transfers have been resolved and cryptocurrencies have the capacity to process money transfers to the countries where applicable law permits.

Table 1: Traditional remittance services compared to blockchain-based remittance services

Vendors	Transaction Time	Cost	Accessibility
Bitcoin	14 minutes	0,13 USD	24/7
Litecoin	3 minutes	0,07 USD	24/7
Bitcoin Cash	26 minutes	0,10 USD	24/7
Western Union	4 business days	27 USD	Business hours only
MoneyGram	3 business days	18 USD	Business hours only
Bank Wire Transfer	3 business days	35 USD	Business hours only

Source: Own work

As shown on the above table, most common remittance service providers and cryptocurrencies were compared based on a single transaction on each vendor which took place on October 2020. The most cost-effective ways were used to compare the services equally as organizations such as MoneyGram and Western Union offer faster transaction services with higher fees. All transfers were made between Turkey and Poland as fees, regulations, and transaction times may differ depending on the country. 500 USD was used for this case study as the financial unit to send and receive through different networks as illustrated in Table 1. In order to compare the services on a justified and equal basis, the bank transfer method was used for Western Union and MoneyGram. The intermediary bank incoming fund fees that occur when working with banks are not included in the cost section. Only transaction costs are considered. Cryptocurrency remittance transactions are 350 times faster and 267 times cheaper on average compared to transactions made through traditional remittance service providers based on the calculations from the data presented in Table 1.

As the test for this case study is conducted on a single transaction, it is possible to state that each transaction processed by the cryptocurrency network no matter the financial unit can take longer or shorter and cost more or less than the numbers shown in Table 1. The core nature of the blockchain and the cryptocurrency

network is the reason for that. The cost of the transactions through cryptocurrency depends on the transaction size and traffic in the network. Some cryptocurrency wallet vendors provide dynamic fees and also automatic fee calculation services. The same goes for the services such as Western Union, MoneyGram or a bank. Transaction size and countries chosen for exchange are among the factors determining the cost and the speed of each process.

Table 2: Remittance services comparison

Traditional Remittance Services	VS	Blockchain Remittance Services
Central data storage	Security	Encrypted & timestamped trackable transactions
Multiple channels and central banking system	Transfer	Multiple channels and instant settlement
Fiat	Medium of Exchange	Crypto & Fiat
Stronger mainstream trust	Brand	Weak trust
Central infrastructure, manual SWIFT (Cross-border payment system)	Technology	Distributed ledger technology Open-source Global payment network and payment protocols
Money transfer services Forex Loan, credit, bank, cash Billing Money transfer apps	Product & Services	Money transfer services Forex Cryptocurrency wallets & storage devices Payment protocols Stable coins Money transfer apps Lending, billing

Source: Own elaboration

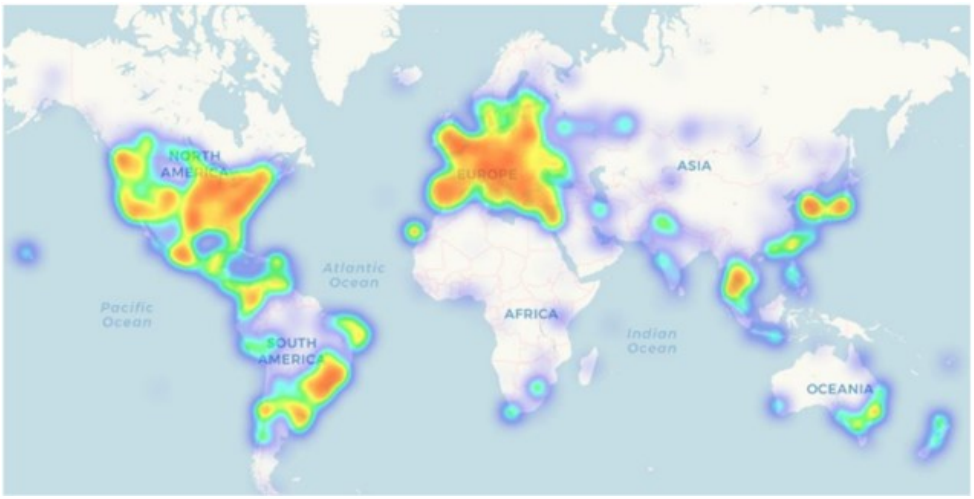
Different remittance service providers are compared in Table 2, illustrating the difference between blockchain-based vendors and traditional methods. With the data collected in Table 1 and Table 2, it is possible to state that cryptocurrencies provide a larger base of advantages when it comes to remittance services in comparison to most popular methods used by the majority of consumers. Blockchain technology has the potential to solve various problems in the remittance industry such as high fees, long transaction times and the abundance of intermediaries by eliminating the large fees imposed by third party organizations, servicing and having accessibility at all times, providing anonymity for users and a security level that can be provided with the technology behind blockchain, cryptocurrencies.

Recently, cryptocurrencies have been drawing considerable attention from a wide audience throughout the world. It doesn't end there and expands to governments, corporations, legal personalities and further. This helps the environment of the crypto market to a cycle of constant development. New digital currencies are being issued to be used for various means including creating applications, investment portfolios, international money transfers, or trading and therefore the list goes on because the technology behind cryptocurrencies is evolving and the worldwide acceptance of those digital assets are an ongoing matter. Currently, there are many portals accepting payments via cryptocurrencies, especially Bitcoin. The number of opportunities to use crypto tokens is still growing from ATM machines to even gas stations. There are almost 15,000 venues that are ready to process transactions using different sorts of cryptocurrencies, mainly Bitcoin, by mid-June 2020 which states the point of growing user numbers of virtual tokens and

the gaining of acceptance in various countries (Dumitrescu, 2017).

Cryptocurrencies are being widely accepted and recognized mostly in North America and Europe and a few Asian countries. Bitcoin's acceptance has grown over 700% since 2013 and the current situation with crypto assets may be a clear indication. With crypto coin mining getting popular and more people being involved in the process, need and demand for different cryptocurrencies arise. While some countries declare cryptocurrency usage illegal and punishable by fine, like Ecuador, Bolivia or Morocco, the majority of the world has no such limitations whatsoever. Cryptocurrency accessibility for cyber-crimes and illegal transactions can't be overlooked. Due to the anonymous and decentralized network provided by the crypto market assisting in such situations, ultimately this decreases the prestige of cryptocurrencies. They're also utilized in the dark web which is the other side of today's internet which people might use for criminal purposes like concealment of the purchase and trade of illegal substances, weapons and services. This is often actually a serious issue involving cryptocurrencies and presents a dangerous threat to society. Using virtual assets like BTC in criminal acts increases the amount of the transaction conducted within the dark web and creates possibilities also for scammers to con individuals who do not possess credible information on this matter with unrealistic manipulations which proves the very fact that cryptocurrency may be a medallion having two sides. One provides benefits while the opposite side fuels the dark web and its affiliates which reveals the phenomenon that cryptocurrencies do affect the economic world while also allowing new possibilities to emerge from its decentralized nature (Luther, 2016).

Figure 3: Worldwide Cryptocurrency acceptance map



Source: https://coinmap.org/#/world/28.61345942/64.33593750/2 (26.08.2020)

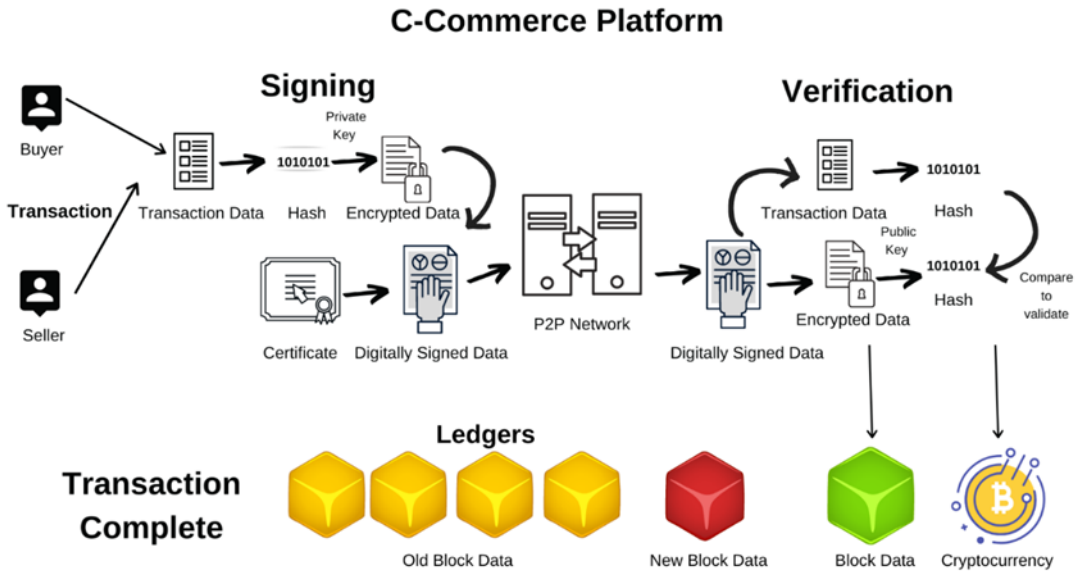
As illustrated in the above figure, it is possible to state that cryptocurrencies have gained some level of acceptance in many countries and that the user base has grown tremendously and shows an attitude for growing demand and innovation. It is also possible to predict that as more and more different cryptocurrencies are issued for various purposes, it will positively affect the growth of the concept for virtual currencies worldwide. While the number of merchants within the United Nations which accepts cryptocurrencies has inflated, they are still very much within the minority. For cryptocurrencies to reach a global majority, they need to gain widespread acceptance among shoppers first. However, their relative complex nature compared to traditional currencies can make it harder for a significant number of the population, apart from the technological adoption.

Blockchain as a new technology holds great potential to provide possibilities in many industries and organizational settings. If used for e-commerce as presented in Figure 5, blockchain could solve some disadvantages for the current e-commerce systems with the help of cryptocurrencies. E-commerce has been growing rapidly for years. However, offline trade and transactions still play a large role in our daily lives as they are considered easier and more secure. P2P payment is processed through the use of cash. Online transactions are obligated to use a 3rd party payment system which is subject to commission. With the use of blockchain as an already adopted system

in the e-commerce network, P2P payment with cryptocurrency can be supported. The ledgers model is proposed to provide the chance to pay digitally as if paying directly with cash. This blockchain implementation would have a P2P network to store and validate the transactions. Users may remain anonymous and a smart contract will be placed in order to ensure security.

When a buyer and seller start a transaction, data is going to use the hash function which is encrypted by the use of a private key that belongs to the signer. As soon as the encrypted data is signed that forms the smart contract, it will be sent to the P2P network. P2P network includes computers named as nodes that approve the transaction. Verification is done through comparing the signature from digitally signed data by the public key belonging to the signer party to be decrypted. The two transactions are subject for verification consisting of the data from seller and buyer separately. After both verification processes are complete, they will be combined to create block data. The ledger system takes the block data and adds to the blockchain which finalizes the process. Cryptocurrency is used as the form of payment and the transaction can be completed.

Figure 4: C-commerce Module



Source: Own elaboration

Figure 5: Advantages of cryptocurrencies on e-commerce

Source: Own study

E-commerce may hold the longer-term trends for cryptocurrencies. Because the market grows, it is going to generate an opportunity for virtual assets to play a role. This is going to be possible through employing a crypto value as a medium of exchange on online retailer websites. Cryptocurrencies can provide the benefits as stated in Figure 4. In order for this to happen as projected above, a replacement cryptocurrency must be invented. This new digital token should only specialize in e-commerce and protecting the customer. Integrated cryptocurrency needs to be the sole valid medium of exchange which is accepted as a way of payment and must have a stable price considering fairness to the people that would really like to use the amenities of such a system. A decentralized marketplace could be created and this structure must have its own cryptocurrency embedded into the core build. In addition, a replacement era may begin for global e-commerce. The thought would be to transform commerce to c-commerce where the letter c stands for cryptocurrencies. The current trend of retailing markets would be taken to a subsequent level by providing advantages of the e-commerce environment which is based solely on crypto token and blockchain technology. Benefits of such a system would be more for the consumers which constructs the foremost important part of the market-commerce system which would definitely be a revolutionary invention which could change the way things work in today's retail market.

Moreover, future trends and possibilities of cryptocurrencies present promising growth on aspects of global acceptance, user base, money transfers, demand in investment and crypto-based applications. If the crypto markets continue to be bullish and users or investors continue to back cryptocurrencies in the long run, there may be a possibility that crypto-based economies might become a reality. A cryptocurrency-based economy could ensure that the money that comes from the fund of country authorities is invested in crypto tokens. That could provide dependability and transparency, where each transaction would be publicly recorded and could be tracked by the involved parties. While a growing number of merchants have already begun to accept different cryptocurrencies like Bitcoin, Ethereum, Litecoin or Dash, virtual assets are still far from being as accepted as other mainstream payment services. In the case where the cryptocurrency market continues to be stable or liquid, it is possible to predict that worldwide recognition will become more mainstream and even major players such as Amazon, Walmart, Alibaba, or eBay may begin to accept cryptocurrencies.

Conclusion

Given all the information presented throughout the article, it is possible to conclude that cryptocurrencies hold a huge range of opportunities with new technologies and constant development. Also, these virtual coins have great impact on the economy by affecting banks, governments, corporations and individuals. Crypto tokens are very distant from being regulated by an authority. A decentralized system which is integrated allows anonymity and privacy to crypto users which are the most popular features of virtual assets. Cryptocurrencies clearly have the potential to take part in the future of our daily lives, because the global acceptance rates are considerably growing which suggests that at some point, crypto-money could be a rival to fiat currencies and even replace them in the future.

These study findings indicate that there are vulnerabilities with the present state of the crypto-market and security concerns which can't be overlooked or ignored. Many incidents of hacking attacks or theft have occurred over the years that caused significant injury both financially and technically to the credibility of cryptocurrencies and also to the people that use the services. This happens due to the technical drawbacks within the system which definitely need to disappear if the cryptocurrency market is to survive in the coming years. Moreover, the invention of Bitcoin and other crypto tokens created an environment for the dark web which ultimately increased the crime rates and made it harder for authorities to spot the persons of interest involved in illegal acts. That is a serious problem and an obstacle to the governments' perception which is why regulations are suggested to be applied to crypto coins. While third party control looks like an honest idea in such cases, that might also destroy the very reason why people prefer using crypto assets. Volatility is perhaps the most important issue that cryptocurrencies experience now because the market is fragile and it's not too hard to control the costs of crypto tokens using media as an example. This problem causes unstable market value fluctuations leading to inconvenience for the bottom user portfolio. Additionally, volatile assets are considered to be less credible and it makes it much harder for cryptocurrencies to adapt to the financial markets.

All in all, with the information gathered throughout this article, it is possible to state that cryptocurrencies might be here to remain. From its' beginning the rapid changes and news on the mainstream media drew the attention of many people and this led to the increased usage of crypto tokens in real-life purposes. Now it's pos-

to use virtual assets in order to make payments online and also in places which accept cryptocurrencies and for other numerous purposes like money transfers for both international and domestic regions, to build applications for computers and smartphones, or start a business with ICO and crypto money like Ethereum.

As a result, paper money is losing its effectiveness because the crypto coins gain more trust and are offering features and possibilities that fiat currencies are not ready to comprehend. With technology developing so rapidly, fiat currencies are moving closer to being outdated. With the developments of the present system of crypto coins, more people have begun to use it. The number of individuals who use and invest in crypto tokens is estimated to expand in the upcoming years which is an expected outcome given the circumstances. Issues that challenge the crypto-world are decreasing because the cryptographic system develops itself to stop possible malicious attacks, hacking, theft or bad intended mining. The crypto market is growing with regard to total market capitalization and number of users which increases the credibility of such assets. Ultimately, crypto tokens are very attractive to those that value their privacy, security of their funds and anonymity on the web which is usually seen as a rebellious act against the present medium of exchange and therefore the governments. This study demonstrates the statement that in the future cryptocurrencies might even replace paper money altogether. The concept of cryptocurrency is separating government from money as the internet distinguished information from the state.

As there are many factors in play in order to determine whether cryptocurrencies could form a reliable presence in the future or provide better possibilities for money transfers, further research could be done at other levels of depth based on different variables such as how third-party organizations effect cryptocurrencies. The results of this study recommend further research to be conducted on the relations between crypto-based applications and factors that affect the qualifications of international fund transfers based on different countries as each state endorses its own regulations and rules for cryptocurrencies usage. Also, these findings suggest further scientific research on applications using cryptocurrencies which can create a system or a medium of exchange which can embody an e-commerce environment resulting in decentralized trade.

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