

Constraints of New Investors in Cryptocurrency Markets

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TO GOA UNIVERSITY

In Partial Fulfilment of the Degree of “Master of Commerce”

By

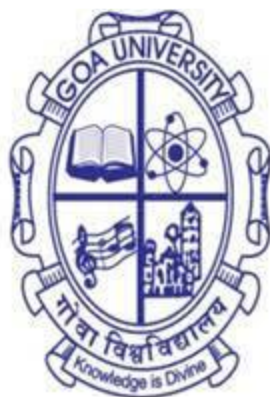
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DECLARATION

I the undersigned, Matiullah Aria, do hereby declare that the project entitled, “Constraints of New Investors in Cryptocurrency Markets” has been composed by me under the guidance of DR. K. B. SUBHASH towards partial fulfilment of the degree of Master of Commerce, and has not previously formed the basis for the award of any degree or diploma or any other similar title in Goa University or elsewhere



DATE: 10/07/2021

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CERTIFICATE

This is to certify that this dissertation entitle “*Constraints of New Investors in Cryptocurrency Market*” is the record work done by a candidate himself during the period of her study, under my guidance, and to the best of my knowledge it has not previously formed the award of any degree or diploma in Goa University or elsewhere



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Table of Contents

Abstract.....	1
CHAPTER 1: INTRODUCTION	2
1.1 Introduction.....	3
1.2 Background of the study	4
1.3 Definition of terms	7
1.3.1 Bitcoin	7
1.3.2 Blockchain	8
1.3.3 Cryptography	8
1.3.4 Cryptology	8
1.3.5 Altcoins	8
1.4 Literature Review.....	14
1.5 Purpose of the study.....	14
1.6 Significant of this research.....	14
1.7 Limitation of the study.....	15
1.8 Methodology	15
1.9 Outline of the study.....	16
CHAPTER 2: LITERATURE REVIEW	17
2.1 Introduction.....	18
2.2 Common challenges in nowadays cryptocurrency markets	19
2.2.1 Price Manipulation	19
2.2.2 Pump and Dump ICO Schemes	20
2.2.2 The Activity of cybercriminals	20
2.2.3 Lack of price uniformity	21
2.2.4 Transaction Delays	21
2.3 Classifying of The Challenges	21
2.3.1 Tactical challenges	22
2.3.2 The technical challenges	22
2.4 The current industry practice	23
2.5 Conclusion	24

Chapter 3: ANALYSIS, DISCUSSION, and FINDINGS.....	26
3.1 Introduction.....	27
3.2 Analysis, Discussion, and Findings	27
3.2.1 Constraints.....	27
3.2.2 Classification of Constraints.....	31
3.2.3 Solutions and How to Avoid Risk.....	33
3.3 Summary	36
3.4 Suggestions	37
3.5 Further Research	37
3.7 References.....	38
Annexure.....	40

Constraints of New Investor in Cryptocurrency Markets

Abstract

Without any doubt cryptocurrency is the new evolution that since its innovation has brought so many changes, it new form of money which unlike the traditional fiat money is not backed by anybody. Since 2008 that white paper of Bitcoin was published, almost 5000 more coins were developed. The amount of money and investment in this industry is pretty huge that made so many researchers and experts to do many valuable researches on it.

Just like many other innovations the first crypto currency was humiliated and disbelieved by people, i.e: On 22 May 2010, Laszlo Hanyecz made the first real-world transaction by buying two pizzas in Jacksonville, Florida, for 10,000 BTC, an amount that would easily surpass hundreds of millions of dollars. Bitcoin started at a price of \$0 in 2009, and it took it to years to reach \$1. That means that with only one dollar investment that time you could be a millionaire today, but still there are new chances of investment as everyday new coins are getting developed and offered in market. One of the most important factors that makes cryptocurrencies really valueable is the potential of these coins in facilitating daily transactions which are super fast and cheaper than traditional way of sending and receiving money.

The prices of these coins just like other assets is recognized by interception of demand and supply curves and this is the point where there markets can be manipulated. Despite the high security of cryptocurrency exchanges still there are possibilities of risks. These risks which are infact sudden fluctuations can be monitored by current investors and even at some points by exchanges themselves.

The current research is aiming to provide a comprehensive overview of the constraints that new investors can face, classify these threats and suggest some solutions.

CHAPTER 1: INTRODUCTION

1.1 Introduction

"I think the internet is going to be one of the major forces for reducing the role of government. The one thing that's missing but that will soon be developed is a reliable e-cash." [1]. It is interesting to read this famous quote by Melton Friedman a Nobel Price winner economist who passed away on November 16, 2006. While the first cryptocurrency was developed in 2008 just years later after Mr. Friedman passed away. It is as if the world needed innovation in the monetary system. The rise and evolution of bitcoin and later other cryptocurrencies brought a complete big change in the business and finance world.

There are various innovations in monetary terms for easy payments, built on platforms like mobile phones, internet, and digital storage card. i.e: PayPal, Applepay, GoogleWallet and many more which all are based on fiat money [2].

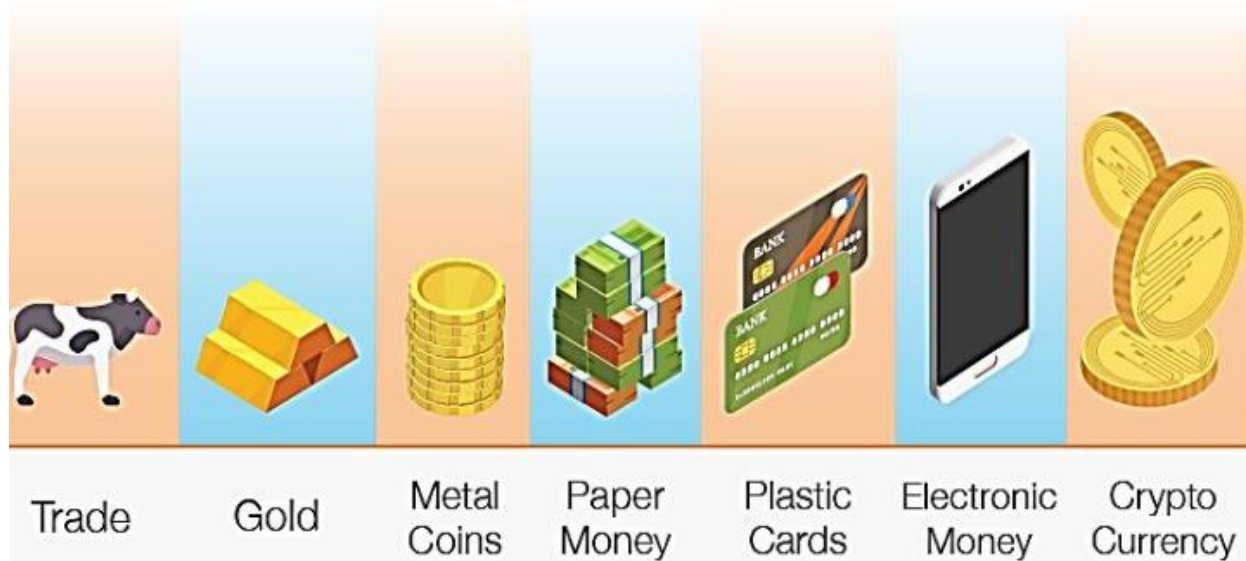
Cryptocurrency is the new form of money which unlike fiat money is not backed by any centralized system or central bank; it all started with bitcoin; it was the first cryptocurrency and soon accepted by big companies all over the world thanks to the boom in cryptocurrency prices especially the bitcoin on 2017 many countries focused on regularizing these currencies which are playing a vital rule in their economies [3]. Some of the great economies like Georgia, China, the USA, Iceland, and Switzerland are on the list of best countries for mining crypto countries [4]. This states how fast these currencies are finding their place in new economic models. Cryptocurrencies or in short cryptos facilitates a lot in daily transactions for its users but there are pros and cons of it, even though these days the prices of these currencies suffered lots of swings due to some reasons that this research will discuss like effects of big players also called as “whale’s moves” in the industry, manipulation, and many more factors causing fluctuations. We can see that the interest and attention for these markets are growing and day by day new people and investments are investing in the industry. This high load of attention and capital has also inspired researchers and finance experts to study these markets and publish tones of valuable journals, books, and research papers about the industry however there are rarely views and researches on constraints faced by new entrants into these markets where everyone might have assumed that thanks to technology everything is all clear and no one will err in dark sides but there is a general rule that as far as evolution and progress happen not only the facilities grow but new challenges and constraints also get to appear, this research aims to give a brief description about cryptocurrencies, their background, and history and detect the constraints faced by new dealers in the market. This chapter aims to discuss what are cryptocurrencies, what is their purposes, why they were created, and what is the need for these currencies. This chapter will provide an introduction to the study by first describing the background and context, followed by the research problem, research aims, objectives and questions, the significance, limitation, and finally the outline of the research.

1.2 Background of the study

Money as a medium of exchange was developed by humans for trading purposes because it was easier than barter (the exchange of goods to goods) [5]. For years payment systems have witnessed the evolution; from barter to nowadays cryptocurrencies.

Figure:1.1 Evolution of payment system

The Evolution of Money



Source: IJR(A STUDY ON EVOLUTION OF MONEY FROM ANCIENT COMMODITY MONEY TO DIGITAL CURRENCY AND THEORIES REGARDING ORIGIN OF MONEY)

There is a big difference between electronic money and Cryptocurrency; electronic money refers to the currency electronically stored on electronic systems and digital databases used to make it easier to transact electronically. It is popularly referred to by many names, including digital cash, digital currency, e-money, and so on. E-Money is used and circulated in electronic payment systems, net banking and electronic payments are examples of e-money, while cryptocurrency in the form of money created by computer mechanisms and mathematics [6].

These days the rapid growth of cryptocurrencies and especially bitcoin is so tempting that almost everyone who are interested in investment and gaining overnight wealth are inspired to invest in these markets, but we all know that entering these markets has its challenges, just like other businesses; trade in these markets have their rate of return and risk, there are some major and particular challenges for new entrants in the market, this research tries to identify and list major constraints already in the industry and determine those which are threatening the new traders in

different exchanges in these markets. There are lots of valuable resources and references on how to get into these markets, how to trade, how to mine the coins ,and so many other technical topics but there was lack of research that particularly talks about constraints of new traders in the industry, the main purpose of this research is to first list the constraints in these markets for new traders, categorize them, give a short detail on how to classify these coins which these days according to CMC (coin market cap) 5337 of them [7]. And finally give some suggestions on how to face these constraints and avoid risk.

A cryptocurrency is a digital asset designed to work as a medium of exchange wherein individual coin ownership records are stored in a ledger existing in a form of a computerized database using strong cryptography to secure transaction records, to control the creation of additional coins, and to verify the transfer of coin ownership [8]. Once a transaction is confirmed, it is stored on the ledger and protected using cryptography. It cannot be changed or deleted without a consensus (the group agreement), which makes the blockchain unbreakable. Cryptocurrency is the new evolution and form of money unlike fiat money it is not in physical form and unlike digital money it is not centralized or backed by fiat money, the way it functions using the blockchain system is that: all its transactions are recorded in a public ledger that is accessible to all the nodes in the chain.

Cryptocurrency started with Bitcoin: the first coin that was introduced in 2009 by an unknown person with the alias Satoshi Nakamoto. Later this led to the invention of many more currencies for different purposes, the evolution of bitcoin and altcoins is an interesting is such a big wave that affected not only the finance and business world but also our daily lives, it is one of those technology waves that is changing our lives and is finding its way every day in businesses, economics and maybe even politics. The advantage of blockchain over the traditional way of storing data is that all other traditional databases which are being used even by big companies like Google, Facebook, YouTube, and many others are linked to one main server that if someone gets access to that server there is a high risk of theft and alteration while with blockchain system for robbing the system you need to get into all the nodes in the chain which is almost impossible you can't bring even a small change in any of these nodes without getting a confirmation from all parties in the chain, this is how it works and how miners are mining coins for themselves.

In 1981 scientists were trying to solve the privacy, security, and inclusion problem with cryptography but still, there were some leaks that always a third party had to be included, paying with credit cards asked for a lot of personal data and charges were high [9].

David Chaum the mathematician invented the e-cash in 1993 and made it possible to safely payment on the internet [9] but unfortunately because that time people didn't care about safety on the net things didn't go well for him and their company went bankrupt in 1998.

In 2009 a pseudonym Satoshi Nakamoto mined bitcoin the first cryptocurrency (introduction to bitcoin) which was working based on the blockchain system, this was a completely new revolution

bitcoin was the new form of money which unlike fiat money it was not controlled by central banks and you didn't need a third party for your transactions. Bitcoin is the purely peer-to-peer version of electronic cash that enables you to do your transactions without the need for a financial institution as a third party [10].

Cryptocurrencies are digital token produced from cryptographic algorithms, transported across cyberspace using protocols such as peer-to-peer networking differently distinguishable thru three key characteristics-electronic, not the liability of anyone [11].

The notable fact about the currency is: it does not require banks to process payments [12]. It is not backed by any government which makes it self-regulatory which means no central bank can regulate it.

Nowadays the usage of cryptocurrencies is so inevitable that has affected almost all financial activities all over the world, major banks like the People's Bank of China and the Bank of England aims to develop a nationwide digital currency based on blockchain technology [13].

The first bitcoin transaction was done by Nakamoto in which he sent 10 bitcoins to Hal Fenny [14]. The first actual real-world bitcoin transaction was done on 22 May 2010, Laszlo Hanyecz made the first real-world transaction by buying two pizzas in Jacksonville, Florida, for 10,000 BTC which is the most famous transaction yet [15].

Cryptocurrencies are the computerized form of assets that are designed to facilitate the transactions it is stored in a public ledger that everyone in the chain has access to it, the strong cryptography made this database secure enough that almost no one can hack into it, as it is spread among all chain members if some-one wants to change or make a new transaction he has to do it for all the nodes in the chain and nothing in the chain can be done without consensus (group agreement) [16].

As mentioned above cryptocurrency is the new form of money and unlike fiat money and even digital currencies it is not controlled by central banks it is completely a decentralized controlling system. In a decentralized control system, each coin is recorded in a public ledger that all nodes in the chain have access to it.

A cryptocurrency is a token on a distributed consensus ledger (DCL) that represents a medium of exchange and a unit of account [16]. The users are known by their virtual name and addresses which makes them pseudo-anonymous, unlike central banks that you are borrowing them the money and bank can do whatever they want and at the share the interest here in the cryptocurrency market you own your money as far as you hold the keys.

Elon musk recently has invested 1.5 billion USD in bitcoin [17]. He even took a step forward and now you can buy tesla cars with bitcoin which gave a huge shock to the market as this big amount of money could raise the de[m]and for the coin and raise its price.

These days there are almost 5k cryptocurrencies and all of them are created for different purposes with billions of market caps [7].

1.3 Definition of terms

1.3.1 Bitcoin

“Right now, Bitcoin feels like the Internet before the browser.” – Wences Casares (Founder of Banco Lemon). This famous quote states the vital rule of Bitcoin in Future. As mentioned before Bitcoin was the first coin developed, it was invented in 2008 and begun to use in 2009 [18]. Bitcoin is a new form of global digital currency based on peer-to-peer network, enabling a new payment system, and also a completely decentralised cryptocurrency [19]. It can be called the latest technological form of virtual virtual currency which is based on cryptography [19].

According to CMC (www.CoinMarketCap.com), the live **Bitcoin price today (06/22/2021)** is USD 31,964.29 with a 24-hour trading volume of USD 51,347,496,262. Bitcoin is down 10.02% in the last 24 hours. The current Coin Market Cap ranking is #1, with a live market cap of USD599,017,104,806 USD. It has a circulating supply of 18,740,200 BTC coins and a max. supply of 21,000,000 BTC coins.

Graph:1.1 Moves of Bitcoin Price during years



Source: Bitcoinworld.com

According to this table from (buy bitcoinworld.com) [19], the lowest bitcoin price ever recorded was USD 0.07 on 16 August 2010, and the peak price was USD 61035.81 on April 12th, 2021. As we see in the table the bitcoin price has lots of ups and downs but still, it's the number one currency

among the cryptos and at some points the base for other coin trades. There have been 18,740,225 bitcoins mined which is 89.239% of the maximum of 21 million bitcoins and 18,740,225 left to be mined the average rate of mining per day is 900 BTS.

1.3.2 Blockchain

It's a public ledger in which all bitcoin transactions are recorded [20]. It's continuously growing as the miners are extracting new bitcoins every 10 minutes [20]. This states that as far as new coins are mined the blockchain also gets bigger and bigger. Blockchain is the type of database and technology beyond all cryptocurrencies it stores data in blocks that are chained with each other, unlike other ordinary databases which keep all data in one main server. It acts as decentralized for these coins which means that no one can control it only by him/her self all the transactions are recorded publicly and permanently and there will be a copy available for any new member in the chain. The Security of a blockchain is guaranteed by the nodes which are connected.

1.3.3 Cryptography

The term cryptology is derived from the Greek *kryptós* ("hidden") and *lógos* ("word"). It means the users can safely and securely send the contents to each other [20]. Cryptography is the process of converting ordinary plain text into unintelligible text and vice-versa. It is a method of storing and transmitting data in a way that only those who are integrated can read it. It protects data from alteration and loss and can also help in its authentication. Or simply it's the secure communication technologies that allow sender and receiver to have access to its contents.

1.3.4 Cryptology

Cryptology is derived from the Greek *kryptós* ("hidden") and *lógos* ("word") [21]. The study of secret codes or ciphers and the device used to create and decipher them is termed cryptology. Security obtains from legitimate users being able to transform information by a secret key or keys or information known only to them. The resulting cipher, although generally inscrutable and not forgeable without the secret key, can be decrypted by anyone knowing the key either to recover the hidden information or to authenticate the source. Secrecy, though still an important function in cryptology, is often no longer the main purpose of using a transformation, and the resulting transformation may be only loosely considered a cipher [21].

1.3.5 Altcoins

Is the portmanteau of "alternative" and "coin" to form altcoin, it means all other coins except bitcoin mostly many of altcoins are based on bitcoin and happened a lot when the price of bitcoin was going up or down the prices of these altcoins were also affected. Some of the most well-known Altcoins (as on market cap) are Ethereum, Ripple, Tether, Bitcoin Cash, Bitcoin SV,

and Litecoin. There are almost 5k altcoins according to the coin market cap all made for special purposes. Here we will study the first five according to their ranking on major exchange platforms.

1.3.5.1 Ethereum

Ethereum is a decentralized computing platform that uses ETH (also called Ether) to pay transaction fees (or “gas”). Developers can use Ethereum to run decentralized applications (dApps) and issue new crypto assets, known as Ethereum tokens (www.Ethereum.com). The introductory paper was originally published in 2013 by Vitalik Buterin, the founder of Ethereum, before the project's launch in 2015. According to data provided by the Ethereum website, the latest price recorded for Ethereum today (06/22/2021) is 1921USD and the number of successful transactions done for this day is 1.057 million, The amount of money in decentralized finance (Defi) applications, the Ethereum digital economy. Is 50.32 B and the number of volunteer nodes running Ethereum is 5645. Also, according to CMC: The live **Ethereum price today (06/22/2021)** is USD 1,899.62 with a 24-hour trading volume of USD 33,788,506,207. Ethereum is down 15.14% in the last 24 hours. The current Coin Market Cap ranking is #2, with a live market cap of USD221,089,952,961 USD. It has a circulating supply of 116,386,716 ETH coins and the max. supply is not available.

Graph:1.2 Price of Ethereum during years



Source: CMC (www.coinmarketcap.com)

According to this graph downloaded from CMC: the highest price recorded for Ethereum ever was USD 4362.35 recorded on May 12th, 2021.

1.3.5.2 Tether

According to CMC (www.coinmarketcap.com): USDT — or as it was known at the time, Real coin — was launched in 2014 by Brock Pierce, Reeve Collins, and Craig Sellars. Brock Pierce is a well-known entrepreneur who has co-founded several high-profile projects in the crypto and entertainment industries. In 2013, he co-founded a venture capital firm Blockchain Capital, which by 2017 had raised over USD80 million in funding. In 2014, Pierce became the director of the Bitcoin Foundation, a nonprofit established to help improve and promote Bitcoin. Pierce has also co-founded Block. one, the company behind EOS, one of the largest cryptocurrencies on the market.

Tether or USDT is a cryptocurrency token issued on multiple blockchain protocols. It is a stable coin; which is, a type of cryptocurrency designed to maintain a stable or unchanged market value as the asset to which it is pegged [22]. USDT's unique feature is the fact that its value is guaranteed by Tether to remain pegged to the U.S. dollar. According to Tether, whenever it issues new USDT tokens, it allocates the same amount of USD to its reserves, thus ensuring that USDT is fully backed by cash and cash equivalents.

The famously high volatility of the crypto markets means that cryptocurrencies can rise or fall by 10-20% within a single day, making them unreliable as a store of value. USDT, on the other hand, is protected from these fluctuations.

Tether is a blockchain-based cryptocurrency whose crypto coins in circulation are backed by an equivalent amount of traditional fiat currencies, like the dollar, the euro, or the Japanese yen, which are held in a designated bank account. Tether tokens, the native tokens of the Tether network, trade under the USDT symbol.

Graph:1.3 Price of Tether during years



Source: CMC (www.coinmarketcap.com)

Looking at the historical graph of Ether's ups and downs in the price we can observe that Ether has experienced the least fluctuations in comparison to any other coin.

According to CMC, the live **Tether price today** is USD 1.00 with a 24-hour trading volume of USD 89,966,109,709. Tether is down 0.08% in the last 24 hours. The current Coin Market Cap ranking is #3, with a live market cap of USD62,636,197,758 USD. It has a circulating supply of 62,631,335,047 USDT coins and the max. supply is not available.

1.3.5.3 Binance Coin

Launched in July 2017, Binance is one of the biggest cryptocurrency exchanges globally. By aiming to bring cryptocurrency exchanges to the forefront of financial activity globally. The idea behind Binance's name is to show this new paradigm in global finance — Binary Finance, or Binance. Changpeng Zhao is the founder and CEO of Binance. In 2001, Zhao joined Bloomberg as head of trade book futures development. He spent four years with the company and later joined Fusion Systems as a partner. Binance is a unique ecosystem of decentralized, blockchain-based networks. The company has grown to be the leading crypto exchange in several countries, and their side organizations are attracting significant interest as well.

One of the biggest competitive advantages Binance has is its drive for development. While the company started only as a crypto exchange back in 2017, today, Binance has spread its services among numerous different spheres. According to the company website, its mission is to become the infrastructure services provider for the entire blockchain ecosystem.

Since launching the Binance Coin, the exchange has also benefited from increased investor interest in the token. BNB went through a significant price increase at the beginning of 2021, which has put it on the map of enterprise investors.

Graph:1.4 Price of Binance Coin during years



Source: CMC (www.coinmarketcap.com)

According to CMC: The live **Binance Coin price today (06/22/2021)** is USD 265.22 with a 24-hour trading volume of USD 2,913,376,253. Binance Coin is down 21.63% in the last 24 hours. The current Coin Market Cap ranking is #4, with a live market cap of USD40,693,521,102 USD. It has a circulating supply of 153,432,897 BNB coins and a max. supply of 170,532,785 BNB coins.

Looking at the historical graph of ups and downs in the price of Binance coin we can observe that in 2021 there has been a boost in rising of Binance coin price. The highest recorded price for this coin is 690.93 USD on 10th May 2021.

1.3.5.4 Cardano (ADA)

Cardano is a proof-of-stake blockchain platform that says its goal is to allow "changemakers, innovators, and visionaries" to bring about positive global change. The open-source project also aims to "redistribute power from unaccountable structures to the margins to individuals" — helping to create a society that is more secure, transparent, and fair.

Cardano was founded back in 2017, and the ADA token is designed to ensure that owners can participate in the operation of the network. Because of this, those who hold the cryptocurrency have the right to vote on any proposed changes to the software. It was founded by Charles Hoskinson, who was also one of the co-founders of the Ethereum network. He is the CEO of IOHK, the company that built Cardano's blockchain. Cardano is one of the biggest blockchains to successfully use a proof-of-stake consensus mechanism, which is less energy-intensive than the proof-of-work algorithm relied upon by Bitcoin. Graph:1.5 Price of Cardano during years



Source: CMC

Looking at the historical graph of price, we can observe since its invention the peak price of this coin ever recorded is 2.46 recorded which was on May 16th, 2021.

The live **Cardano price today (06/22/2021)** is USD 1.15 with a 24-hour trading volume of USD 4,139,535,012. Cardano is down 18.93% in the last 24 hours. The current Coin Market Cap ranking is #5, with a live market cap of USD36,764,320,225 USD. It has a circulating supply of 31,946,328,269 ADA coins and a max. supply of 45,000,000,000 ADA coins.

1.3.5.5 XRP

To begin with, it's important to understand the difference between XRP, Ripple, and RippleNet. XRP is the currency that runs on a digital payment platform called RippleNet, which is on top of a distributed ledger database called XRP Ledger. While RippleNet is run by a company called Ripple, the XRP Ledger is open-source and is not based on blockchain, but rather the previously mentioned distributed ledger database. XRP was created by Ripple to be a speedy, less costly, and more scalable alternative to both other digital assets and existing monetary payment platforms like SWIFT. Ripple Net's ledger is maintained by the global XRP Community, with Ripple the company as an active member. The XRP Ledger processes transactions roughly every 3-5 seconds, or whenever independent validator nodes come to a consensus on both the order and validity of XRP transactions — as opposed to proof-of-work mining like Bitcoin (BTC). Anyone can be a Ripple validator, and the list is currently made up of Ripple along with universities, financial institutions, and others.

The live **XRP price today** is USD 0.595175 with a 24-hour trading volume of USD 4,254,929,969. XRP is down 22.50% in the last 24 hours. The current Coin Market Cap ranking is #6, with a live market cap of USD27,500,497,787 USD. It has a circulating supply of 46,205,772,880 XRP coins and a max. supply of 100,000,000,000 XRP coins.

Graph:1.6



Source: CMC (Coin Market Cap)

According to the historical graph of XRP price ups and downs record, we can observe that the highest price of XRP ever recorded was 3.84 on 4th January 2018.

1.4 Literature Review

However past studies traditionally focused on how and why the cryptocurrency was invented, how it developed, how we can gain from cryptocurrency markets, how to avoid risks and survive the swings and fluctuations in these markets but all these studies are missing to discuss the constraints faced by new traders who just entered these markets, for example, the technical struggles of a new entrant or lack of knowledge about exchanges or coins, risk of falling for scams, unfamiliarity with major constraints and normal solution which are practiced in the industry, as a result, the existing research is inadequate about the new entrants behaviors and their struggles in these markets; as the industry is constantly evolving and growing and almost every day new coins are getting introduced with different approaches, and billions of money are circulating in these markets there is a vital need for such a research that can response to this question and open up a new discussion for those who may be interested in the field, this research states that if these constraints are not detected and discussed, those who are getting into the industry may suffer lots of losing and may err in zones unknowingly in danger zones.

1.5 Purpose of the study

Given the lack of research regarding constraints of new traders in cryptocurrency markets, this study will aim to identify and evaluate the constraints for new dealers in the crypto markets and talk in short about the technology beyond these currencies.

- To provide a comprehensive review of constraints for new dealers and those who are interested to join.
- To classify the constraints for easier identification of each type of challenge and suggest the best possible solution.
- To understand the technology beyond cryptocurrencies.
- To review the current market practice of cryptocurrencies toward these constraints.

1.6 Significant of this research

This study will contribute to identifying the constraints faced by new dealers in the markets of cryptocurrency in which knowledge and technology are rapidly growing and constantly changing.

This will help address the current shortage of research in the area and provide real-world examples of challenges that will give valuable tips for people who are newly entering the markets or even are operating in these dynamic environments of rapidly growing cryptos.

It also talks about the technology beyond these currencies, some types of cryptos classifying's of cryptos, and how to avoid the constraints and major problems, which will help the people who may benefit from this research on how to make better decisions and be flexible according to changes in the markets.

This research not only helps the people who are investing in these markets but also opens up a new discussion about the constraints that are potentially there for everyone.

1.7 Limitation of the study

The study is designed to assess the constraints faced by new traders who are new to the crypto market, it also talks about some types of crypto and the technology beyond them, the methodology used for this research was qualitative as a structured questioner was sent online to the participant who all were the new traders in Turkey. As the other objective of this research was a grouping of these constraints some the well-known platforms like the Binance website, CMC (coin market cap), and Wazirex are used as valid references and resources to this research. All the sources for this research were free. As the responders to this research were all new dealers and all were in Turkey during responding to questioner so it may make it hard to implement the findings everywhere as the regulations and opportunities are different in every country, but still the main idea and content is almost relatable everywhere.

1.8 Methodology

The purpose of the present study was to identify the constraints for new investors in the cryptocurrency markets, the study was carried out during the period from February 2021 to June 2021. For the study, and unstructured interview was designed as google questioner and administered to more than 20 individual traders who were new and all were trading in Turkey, and out of the 10 were received and replied by respective traders. The response rate was 50%.

The interview was designed unstructured and into three parts, the first two questions were asking about the personal experience of attenders of the interview about challenges they faced and what are the challenges they can add into the list, the second part was their idea about how they could categorize the problems they faced and how the technology beyond the industry helped them overcome and deal with difficulties and last part was dedicated to their suggestions for developing the system and if they wanted to add their viewpoint about the topic.

1.9 Outline of the study

In chapter one, the context of the study has been introduced, the research objectives and questions have been identified and the value of such research argued, the limitation and research methodology of the study has also been discussed.

In chapter two the existing literature review will be reviewed to identify the major problems existing in the industry, the classifications of these challenges, and the industry practice toward these challenges.

In chapter three the theoretical framework will be presented. The adoption of a qualitative, inductive research approach will be justified, and the broader research design will be discussed including the limitations.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

There are lots of ways to get the money you can find, earn it, counterfeit it, or even steal, but if you were Satoshi Nakamoto, you invent [23]. This points out to the creation of the first-ever cryptocurrency (Bitcoin) and perhaps the revolution in our world where fiat money was ruling. The mismanaging of fiat money by governments that are backing the currencies is a deadly reason [24]. The world of fiat money is old and its era is ending [24]. Anyways Cryptocurrency is a fact, its new form of money which now is accepted and known almost everywhere, at some points it may have contrasts with fiat money as it may replace the fiat money or outperform it. There are also arguments that fiat money is outdated and it no more can resist the changes in today's rapidly changing world.

After all, we all agree that cryptocurrency is the revolution that has the potential to not only facilitate our daily transactions at a lower cost but has the potential to change and shape our world.

This research aims to identify the constraints of new investors in the cryptocurrency industry. Studying various research papers, books, and resorting to various crypto-related news channels on social media I have found that no research is conducted on this topic. Therefore, this paper not only answers the research questions but also is a base for further researches for those who are interested in working in this area.

Sources used for data collection include google scholar, J-store, research Gate, Medline, EBSCO, Coin market cap website, and Binance website.

The research on Cryptocurrencies and their markets have been started since those very first days that first currency was introduced so naturally there are lots of resources available about what these currencies. There is necessary a particular purposes behind each coin as they are developed, there are lots of myths and theories on, i.e: is it a future dominating form of money that soon will replace the fiat money, is it a step toward globalization, and how will our world be shaped if cryptocurrency really replace the fiat money. This research is aiming to discuss about the constraints faced by new dealers in crypto markets, the research also aims to classify these constraints, and at last the research aims to briefly talk about the current practice of the industry and give some suggestions on how to face these constraints and avoid risks.

In this chapter most common types of problems are listed, and discussed. It is also discussed that in what way they can be challenging and what are factors for each challenge, in the second part of the chapter these problems were classified according to technical prospective, and they are grouped as Tactical challenges and technical. The research gap is also determined that the current literature lacks research on particular constraints that are for new investors in the cryptocurrency market. This research aims to answer these questions and also opens a new discussion for further studies and for those who are interested to research in this field.

2.2 Common challenges in nowadays cryptocurrency markets

Thanks to the 2017 boom in the price of cryptocurrencies so many countries started accepting it and therefore they started regularizing it [24]. Nowadays there are lots of countries in which banks accept and trade cryptocurrency, this gave a rapid growth in prices of these currencies and tempted many big whales (the term used for big investors in the industry who invest millions and cause the prices to fall or reach the peak). i.e: Elon Musk was one of those major players who invested \$1.5 billion on bitcoin in 8th February, 2021.

Studying cryptocurrency and its markets and researching in this field requires to be updated about all the events that can affect the markets. According to the existing literature studying various researches and resorting to major websites that are publishing research papers and articles about cryptocurrency, there are some major and common challenges existing in nowadays crypto markets, which are listed as follow:

1. Price Manipulation
2. Pump and Dump ICO Schemes
3. The activities of Cyber Criminals
4. Lack of price uniformity
5. Transaction delays

2.2.1 Price Manipulation

Even though the practice of price manipulation is immoral and illegal, still it happens in cryptocurrency markets just it can occur by large investors in security markets. Market manipulation occurs when a given entity deliberately and artificially induces a swing in the price of an asset [25]. The primary goal of market manipulation is financial gain at the expense of other market participants [25]. Price Manipulation is simply monitoring the fluctuations in market to force other investors do short sells and buys.

Some of the most common such practices are:

- **Wash Trading:** Wash trading makes it look like large quantities of an asset change hands over a short time. That, in turn, can mean increased investor interest, which can lead to a price spike.
- **Long/Short Liquidation Hunting:** It is a form of inventory adjustment that occurs especially when the market goes from long to too long. Often in a bull market, it is played by smart money to generate fresh liquidity (make the old buyers sell and trigger new sellers to enter and trade against them) and to remove the weaker participants from the market. It's done by exchanges manipulating their prices and increasing their trading fees.
- **Whale Moves:** When a true whale begins to throw its weight around, price ripples, or rather, tsunamis follow. Pumping and dumping bitcoin is a walk in the park for such a whale.

- **Dark Pool Trading:** Dark pools are private trading forums. Digital assets change hands in vast quantities at a set price on these forums. Given that the whole setup flies under the radar, it does not result in any “official” volume. dark pools allow big institutional investors to sell and purchase large amounts of securities with complete secrecy and no disclosure until their trades have been executed. This is also known as block trading. These dark pools allow large institutions to execute trades with gigantic quantities and offer them a discreet way to trade.
- **Shilling:** Talking up one altcoin and attacking the other in favor of their desired altcoin price rise.
- **Spoofing:** launch a massive number of buy or sell orders. The “technique” will often result in fake buy/sell walls.

2.2.2 Pump and Dump ICO Schemes

To understand the P&D ICO Schemes, it’s better to first understand the ICO. ICOs (initial coin offers) have emerged to become an integral part of the cryptocurrency market. Many tokens are introduced to the market via ICOs with investors buying these tokens in exchange for fiat money. Pump and dump ICO schemes continue to be a problem for the market due to the lack of regulation. During the ICO, the entrepreneurs behind the token speculate massively on the coin, driving the prices up and getting investors attracted. Once this is done, they cash out, leaving the investors with worthless coins that have little or no value [25].

2.2.2 The Activity of cybercriminals

The cryptocurrency market has right from its inception been beset by the activities of hackers and cybercriminals. There have been several high-profile cryptocurrency hacks and heists that have resulted in millions of dollars being stolen. Traders and investors have lost funds and some platforms have ceased to operate. In the aftermath of these hacks, the price of particular cryptocurrencies has dropped considerably.

In a bid to counter the activities of these cybercriminals, traders and platform operators have to take several precautionary measures. While some of these measures are indeed helpful, they create bottlenecks that hamper the cryptocurrency trading process. This then creates a trade-off between security and efficiency. Take, for instance, the need to provide adequate security for cryptocurrency held in wallet storage. Due to the activities of hackers, some traders prefer to store the bulk of their cryptocurrency holdings in offline wallets. This means that anytime they wish to trade, they have to move from offline storage to online storage before participating in the trade. This constitutes another hassle in an already convoluted trading environment.

Transactions on a blockchain are immutable and as such if funds get stolen, there is little chance of ever recovering such funds. Cryptocurrency trading platforms constantly have to improve their

security framework to stay ahead of hackers and thieves. Many of these upgrades also make the trading process a lot more cumbersome with all the authentication steps that need to be carried out.

2.2.3 Lack of price uniformity

Price charting is an essential part of asset/commodity trading. It is often necessary to develop price charts to carry out investment analysis and develop trading strategies. The problem here is the price of a cryptocurrency can vary considerably on the different exchange platforms. With such extreme price differences for the same cryptocurrency, price charting becomes a difficult endeavor. Add to this, the sheer degree of volatility in the market and the problem becomes even more exacerbated.

2.2.4 Transaction Delays

The cryptocurrency market is plagued with a litany of delays across almost every type of transaction. From opening a trading account to verifying your identity and being able to make deposits and withdrawals, the system seems to be quite slow. Blockchain technology ought to make transactions occur faster but it seems to take forever for transactions to be approved on the various chains.

Issues having to do with scalability have been identified by experts as being the cause of transaction delays. As the blockchains become longer, more transactions are being held up in the queue awaiting approval. The market is volatile and as such, delays can be costly. Traders end up missing out on favorable positions because the transaction didn't get posted on time.

These are some major problems that can be challenging for everyone in these markets, and industry should find some ways, fortunately for those who are long holders and not trading in shorts most of these are non-effective except for some technical problems.

2.3 Classifying of The Challenges

These challenges can be classified according to different aspects. According to the technical factors these challenges can be classified as tactical and technical. The tactical challenges are the challenges that happen due to lack of proper investment strategy, other players' manipulations, and falling for rumors in the markets and exchanges. While the technical challenges are all the problems faced by investors who lack enough knowledge of the technology for instance: the failure in placing the transaction on exchange platforms, technical errors, forgetting or losing the address of wallet or account, and falling for scams.

2.3.1 Tactical challenges

Is the set of problems that happens due to some strategic factors like, attempting to liquidate the markets, manipulation of prices, and changes in trading fees. According to existing literature, they are listed as follow:

1. Price manipulation: Practically in the industry this can take different forms: P&D, wash trading, dark pool trading, shilling, and spoofing. While P&D (Pump and Dump) is the most famous type of manipulation in the industry in which artificially inflating an asset price before selling the cheaply purchased assets at a higher price is occurring [26]. Once the asset is dumped the price falls and investors lose money [26]. The fall of price is in favor of monitors of manipulation, a typical P&D episode lasts for only several minutes, while such an episode frequently lasts for months in the stock market [26].
2. The other type of manipulation occurs when trading volume is artificially created by a manipulator which in exact doesn't exist [27]. In short, they are the techniques that are used by big investors to control the prices and gain their profits from another market although these techniques are illegal and immoral but still, they being practiced every day in cryptocurrency markets which makes the small investor extremely vulnerable except for those who are not trading shorts and keeping their assets.
3. Lack of price uniformity: The lack of price uniformity is also considered a tactical problem because it happens the strategic investment decision of investors, lack of price uniformity exists because every platform has its order book that must be reconciled between the buys and sells for that particular asset and each pairing so the price for cryptocurrencies on each exchange platform is different, this is a problem when you want to anticipate the prices and decide accordingly to avoid loss, but at some points, it can be used as an advantage of arbitrage for investors between these platform for some quick gains, even though difficulty and risk will be still there. According to CMC (Coin Market Cap) website, we have **18,998 markets** in which we can trade crypto. This means that there are 18,998 different trading pairs (ex. USD/BTC or XRP/ETH etc.) **available on 259 exchange platforms**. If we do some simple math, we can note that on average, an exchange platform has 73 markets for its users to trade in [28]. So according to these calculations, it's so hard to just stick on one price at one exchange.

2.3.2 The technical challenges

Are the set of problems that happen due to technical errors or lack of technical knowledge in using the platforms by investors, according to existing literature they can be listed as follow:

1. Transaction Delays: It's quite obvious that for better security of transactions cryptocurrency exchanges will sacrifice the pace in transactions, the process of creating and verifying your ID on the websites and doing your transactions they all are time-taking and even though the speed of transactions are different from coin to coin but in general there are two major reasons for this: the process of approving each transaction by miners

in the block chain and a load of the transaction on the system at a time, i.e. as for bitcoin Any average transaction requires about 250 to 500 bytes of data. One Bitcoin block in the blockchain can have not more than 1 MB of data. On an Intel Core i7 quad-core, the bitcoin platform can work through about 8000 signature verifications every other second. The number of transactions per block hardly ever crosses the 3000 marks. Scaling this down to seconds roughly translates to about 5 to 6 transactions per second [28]. While for ripple the limit of the transaction is 1500 per second [29]. However, in the case of Ethereum, the blockchain can handle 15 transactions per second [30].

2. The activity of cybercriminals: Cybercrimes can always happen, it can be an as cyber heist, hack, scams or trading with black money, hacks that has several times happened and affected the prices of coins, there are so many times that theft and exchange shutdowns have happened in the history of cryptocurrencies for instance: June of 2011, August of 2012, April of 2013, February of 2014, January of 2015, January of 2016, and December of 2017 [31]. There is also another side of this problem which is about black money and illegal money used in these markets, as it is the pseudo-anonymous exchanging of money over the web made it also easy for people not to get tracked. In some countries like the US black market is also focused on these currencies to deal with their drug transactions [31]. Perhaps the ability of trading with black money on these platforms was one of the factors that made the government take steps toward regularizing these coins.

2.4 The current industry practice

Even though the following challenges, which we discussed are considered as threats to investment, the existing literature and researches state that with smart decision making we can turn some of these threats into new opportunities as there are different reactions in practice. To limit the misusing of these coins and fight cybercrime some governments stepped toward regularizing these currencies, still, there are gaps. In the following the common practices of the industry in contrast to different problems is discussed:

- As for strategic issues when it comes to the need for cost consistency even though it's an enormous challenge which causes difficulties in estimation of the prices precisely but since the costs for each coin is diverse on different exchanges, the investors and financial experts can take the arbitrage advantage and trade their assets and resources in completely diverse times to avoid loss and dodge the misfortune.
- As discussed, price manipulation is another type of tactical problem it has diverse sorts and each sort is invigorated with a certain calculate from putting the fake exchange fair to presenting that number of exchanges for a coin is rising to deliver an off-base calculation to others, moves of big whales and Pumps and Dumps are another type. The solution to these manipulations is long holding as all the attempts by monitors are to drop the prices and stimulate other investors to sell their assets at low prices.

Things are distinctive when it comes to technical challenges since it's the gather of issues that are happening due to lack of knowledge about the technology by users or in few cases due to scams and hacks.

- The activity of cybercriminals that include hackers, and the real-life criminals who are taking advantage of pseudonym ID of cryptocurrencies platforms. Both these two challenges require different solutions but what is in practice is that some governments like Turkey, the USA, Japan, and many others are trying to regularize the business and the banks in these countries are recognizing the cryptocurrencies, this way governments can track the official transactions done inside their territory and can avoid if necessary from malicious activities. The usual practice in business for over net theft and hacks is that users should be cautious, as they should avoid trading on suspicious exchanges, they shouldn't hurry on doing their dealings, should never share all their details unnecessarily, and acquainted with common scams on the internet, like random trap like mails from hackers and any other attempt by them which nowadays is most familiar for everybody.

2.5 Conclusion

According to current literature there are some major challenges that can restrict the investment opportunities for new investors. The major challenges were price manipulation, pump and dumps in ICO's, activities of cybercriminals, lack of price uniformity and transaction delays.

Manipulation was simply described as creating and monitoring of crises by investors to liquidate the market, even though it is illegal and immoral but still it is practiced in the industry which causes lots of loss to small investors. These acts can pressurize the investors who are unaware of the monitored crises to sell their assets.

Pump and Dumps in ICO's is the other major problem caused by investors who are taking advantage of ICO (initial coin offers), they put lots of investment behind new tokens that are introduced in the market which attracts other investors to buy the token at higher price than it was offered at.

Activity of Cyber-criminals is another major problem that can affect the investors. This can be in form of over the net heists, and cyber hacks.

Transaction delay is another major challenge which is more a technical issue particularly with some coins, there are some specific coins which take too much of time for transaction with there are also coins with super fast transaction speed.

The Lack of Price Uniformity is another big issue which was discussed in details, due to different amount of demand and supply for different coins in different exchanges the prices may be different for same coin in a different exchange.

These problems can be grouped into two major groups; technical problems and tactical problems. The technical problems are related to technology and tactical problems are the set of problems related to investment strategies by investors.

In short the main factors causing these problems to occur are: intentional manipulations, technical problems and some cybercriminals, the best way to avoid them is first being familiar with them, not trusting rumors and panicking in selling or buying.

Chapter 3:

ANALYSIS,

DISCUSSION,

and

FINDINGS

3.1 Introduction

This chapter provide information about the data analysis carried out for findings the answers or the three basic research questions framed, (1) What are the constraints for new investors in cryptocurrency markets? (2) How are these constraints can be calssified (3) How to avoid losses in these markets. Subsequent sections will provide the details about how the data was analyzed to find the answers for each of these three RQs.

3.2 Analysis, Discussion, and Findings

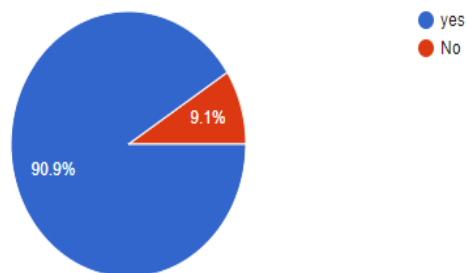
3.2.1 Constraints

To define constraint, it's a set of challenges, threats, and all the factors that can limit the activity of an active body in any industry. To determine the constraints faced by the new investor in the cryptocurrency industry the attenders of the survey were first asked if they ever faced any of the major challenges that were discussed in the literature review section of this research, following question responders were asked to list any other types of challenges they had experienced, the responders were also asked to mention the particular problems they faced during investment in cryptocurrency markets.

3.2.1.1 Perception

Respondents were asked about various challenges and constraints faced while trading in the crypto markets. Out of the 11 responses to the google form questioner, only 9.1 % of responders have never faced any challenges but the rest 90.9 % of responders stated that they have faced the major problems that were discussed in the literature review chapter like, Manipulation, Lack of Price Uniformity, Transaction delays, Scams and Activities of Cyber Criminals. Figure 3.1 is illustrating the percentage of responders who have faced the common types of challenges.

Figure 3.1 perception of respondents about challenges faced

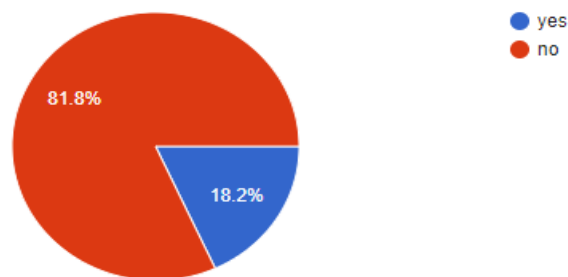


Source: Primary data

3.2.1.2 Small investors

The responders were asked if the small investors have equal chances as big investors; out of eleven responses only 18.2 % of responders agreed that there are equal chances for both small and big investors, but 81.8 % of the responders replied as no. Figure 3.2 illustrating that most of the responders were stating that chances are not equal.

Figure 3.2 the percentage of equal chance for small and big investors

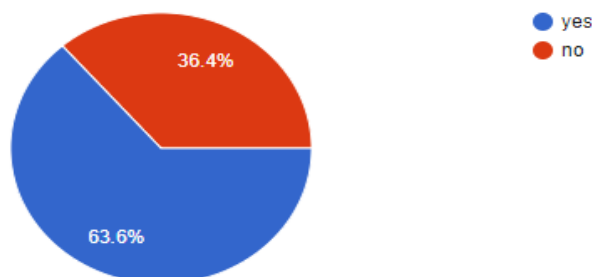


Source: Primary Data

3.2.1.3 Order placing issues

Following the equal chance assessment for small and big investors the responders were also asked if they ever experienced failing to place an order due to a small amount of investment and out of the 11 responses, 36.4 % have not experienced while the rest 63.6 % have experienced. Figure 3.3 is illustrating the percentage of investors who failed to place an order due to less amount of investment. This can be named as the most important constraint for new investors

Figure 3.3 the percentage of failing in placing the order



Source: primary data

3.2.1.4 The challenges new investors faced

The responders were also asked about problems that happened for them, and responses were as follows:

1. Market overload
2. Yes, an error transaction
3. Holding even after prices were falling
4. NO
5. Yes, I mistakenly forgot the last digit of the client's username
6. I guess no
7. yeah, an error transaction
8. I forgot my wallet address
9. No
10. yes, I suffered the sudden market crash on 12th May this year

Out of eleven responders, 10 responded to this question which among them three had never faced any other particular problem (respondents 4, 6, 9), two responders had suffered from the market crash (respondent 3 and 10), one mentioned market overload (respondent 1), three mentioned error in transactions as forgetting the wallet address or mistaking in putting the receivers bank account number (respondent 2, 5 & 7), one mentioned the loss of wallet (respondent 8).

3.2.1.5 The factors

The responders were asked about the factor and why they faced these challenges and they responded as follow:

1. Lack of knowledge
2. Insecure ICO and the reason was my lack of knowledge about the scams
3. less experience
4. hissing in buying and delaying in sell
5. my inaccuracy while putting the other user address so it failed and all my money gone
6. Elon Musk tweets
7. lack of skills and stress
8. market swings
9. I had no clue that if I forget to put the last digit the money will be gone
10. the main reason in my opinion was panic selling or buying during market downside tren

Out of eleven responders, 10 responded to this question, two of them mentioned lack of knowledge about the industry and technology (respondents 1, 2, and 7), two mentioned lack of

experience (responders 3, 5, and 9), two mentioned the hissing and delaying in sell and buy (responders 4 and 10), two mentioned the market fluctuations some big investors attempt to monitor the markets (respondent 6 and 8).

3.2.1.6 The Major Problems

The responders were asked about the major threats that are there for new investors, and the responses were as follows:

1. Falling in scam coins circle because of fake price high -hurrying up in selling and buying
-big influence of entrepreneurs in market price
2. The scams and unfamiliarity with industry and technology
3. Tension, stress, lack of a professional accompany
4. Sudden market up and downs and wrong transaction decisions
5. Holding
6. Lack of skills and knowledge, scams and rumors
7. Ego
8. Their ego, excitement, lack of knowledge about the technology
9. Losing the wallet addresses, falling for scams, and erring between holding and selling in shorts
10. hurrying and be over-excited for any opportunity they see
11. Following rumors on social media, scams

Two of them (respondents 6 & 11) mentioned rumors which are the fake news spreading by some social media channels and sometimes the inaccurate anticipations by financial experts, three (respondents 1, 2, and 6) mentioned falling for scams which can be explained as attempts for cyber thefts or getting fund for some fake coins, three (respondents 3, 9 and 10) mentioned the stress as a threat in investing, this can take different forms like being over-excited for some pumps and dumps about prices or erring in between holding or selling the asset, one mentioned (respondent 4) wrong decision making due to market fluctuations, one (responded 5) mentioned long holding two (respondents 7 & 8) mentioned ego and one (responded 8) mentioned lack of knowledge about the technology can be considered a major problem if you want to invest in cryptocurrency markets.

3.2.1.7 The findings for this section

Out of 11 attenders of the survey, 90.9% of attendees confirmed that they faced major problems like Manipulation, Lack of Price Uniformity, Transaction delays, Scams, and Activities of Cyber Criminals. This means that 90.9% of the responders had the experience of facing at least one of these problems. Next, to find out if the small investors consider their chances of successful investment equal to big investors 81.8% of responders stated that small investors have fewer chances in compare to big investors, following that they were asked if they ever failed to place

an order due to less amount of investment and 63.6% of them stated that they failed, this can be considered as a constraint that if small investors and big investor try to place an order for a coin with limited offers the small investors have no chance. The responders were asked about the particular challenges they faced and responses were mostly holding after price fall or selling before price grow, losing the wallet address, error transactions and sudden market crashes, the main factor beyond these challenges are lack of experience and knowledge, attempts of monitoring the markets by big investors, scams and hissing and delaying in trade. And finally, the main and major threats for new investors were listed as: falling for scams and rumors, the stress and tension of the person him/her self, and their unfamiliarity with industry.

The most important constraint for new investors who generally invest smaller amount of money in these markets is the limitation of not being able to place their order for some limited ICO's while there are huge amount of orders placed by big investors.

3.2.2 Classification of Constraints

This section tries to classify the constraints for new investors that were discussed in the previous section, there for the attenders of the survey were asked that what were the major difficulties they faced during investment in the industry and how they categorize these problems.

3.2.2.1 Major Classification

In this section the responders were asked that how they classify the constraints for new dealers and the responses were as follow:

1. Minor and major
2. Major and minor
3. Major and minor
4. Technological and unintentionally human mistakes
5. Technological and humanized
6. Manage able and unmanageable
7. Technical and financial
8. Technological and humanized
9. Technological and financial
10. Avoidable and unavoidable

Out of eleven 10 responded to this question, they all classified these challenges into two major groups, three mentioned Minor and Major problems (respondent 1,2,3) three mentioned Technical and Humanized (respondents 4, 5, and 8), one mentioned Avoidable and unavoidable (6 and 10) and one mentioned as Technical and Financial (respondent 7).

3.2.2.2 The Particular challenges

The attenders of the survey were asked about the types of constraints they faced, and the responses were as follow:

1. Manipulation at the top and which is followed by transaction delays
2. Lack of knowledge, falling for fake news, unnecessary excitement, and big whale moves
3. Some systematic factors like a big player and market swings and lack of knowledge and experience of new dealers
4. The sudden market up and downs and falling for social media rumors
5. The lack of experience, lack of knowledge about the exchange platforms and industry
6. The big players attempt to control the markets and price, the technology complexity
7. Stress, lack of skills, and emotional decisions
8. Lack of experience
9. There is a lot of reasons but the main reason I think is -lack of verified source of knowledge
10. Market Fluctuations

Out of ten responses, three of them mentioned the lack of knowledge and experience as a constraint that they faced (respondent 2, 5, 8), Two mentioned the sudden market ups and downs (4 and 10), five mentioned the big players and the manipulations monitored by them (1, 2, 3, 4 and 6) and one mentioned the lack of enough skill compared to other contenders.

3.2.2.3 Findings

In this section the attenders of the survey were asked the particular types of constraints they faced during investment in the cryptocurrency market and the responses were listed, as step to classify these constraints the responders were asked how they classify these constraints and mostly they answered as Minor and Major, Technical and financial, Avoidable and Un-Avoidable, and Technical and Humanized types of constraints. Studying the list of constraints from responders classifying them in all these broad is applicable. The major problems can be the group of challenges which are common and even discussed in literature while minor challenges are the set of difficulties that can happen for specific individuals due to different reasons. For example sudden fluctuations of the market, manipulation, and falling for scams that go under major category because they are common, while overexcitement for new offers which may lead to incorrect decision making, and falling for rumors are the minor problems that can specifically happen to those with less experience.

Same way the listed problems can undergo the two categories of avoidable and un-avoidable problems. The avoidable problems are those that can be avoided with extra care, good study of situation and risk management, while the un-avoidable problems are those that can affect the system as whole. For example if sudden market fluctuation happens no investor can do anything

to undo the swing, or if the big investors succeeded in creating a manipulation then there is no way to avoid it. But the avoidable problems can be avoided by proper decision making and taking necessary steps to avoid it.

The listed problems can also be grouped as technological problems and financial problems. Lack of knowledge on how to use the exchange platforms, or even transaction errors can be named as technological problems, while big whale moves and other market-prices related changes can be called as financial problem.

In short according to primary data the list of problems provided by survey attendees is: manipulation, wrong decision makings due to lack of experience and knowledge, over excitement, big whale moves, and sudden market swings. According to different aspects they can be grouped differently.

3.2.3 Solutions and How to Avoid Risk

This section tries to answer to the third research question on how to avoid the loss in these markets by first analyzing if technology was helpful and what are the success factors of investors in these markets. The last part of this section is about suggestions to new investors and to those who want to enter the markets of cryptocurrency on how to avoid loss.

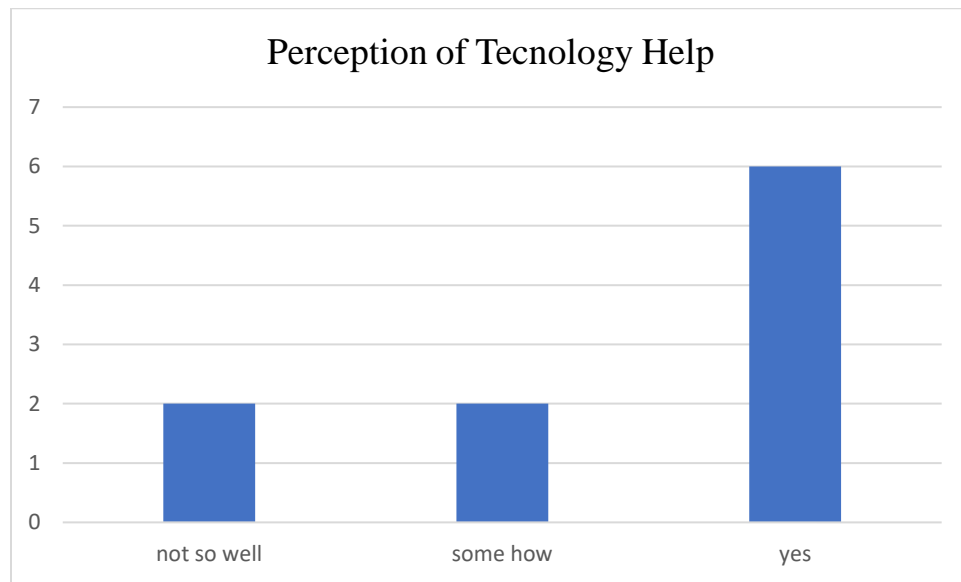
3.2.3.1 Perception toward the help of technology

The responders were asked if the technology used by cryptocurrency exchanges was helpful, and the responses were as follows:

1. Somehow
2. Yes
3. Somehow
4. Not so well
5. Yes,
6. Yes
7. yes
8. Not so well
9. Yes
10. Yes

Out of ten responses, Six of them replied: Yes, two replied somehow and 2 replied not so well. Table 3.1 is illustrating the satisfaction of attendees of this survey from technology used by cryptocurrency exchanges.

Table 3.1 The Perception of Technology Help



Source: Primary Data

3.2.3.2 Success Factors

The responders were asked about their success factors and their responses are as follow:

1. Holding
2. Patience and holding long
3. Holding, patience, researching, and getting experience from my loses
4. Selling on time
5. Learning from my fails
6. Holding and patience
7. Short sells
8. Overcoming my fails and finding professional accompanies
9. Following some professional YouTube channels about cryptocurrency
10. Good timing

11. Following the market news and gaining information before entering any trade

Out of eleven responses for this question, four mentioned holding (respondent 1, 2, 3, and 6), Two mentioned experience and learning from mistakes (respondent 3, 5), two mentioned selling on time and selling in shorts (4, 7), and two mentioned the professional accompany and some YouTube channels advising about cryptocurrency trades.

3.2.3.3 Suggestions

As the last step the respondents were asked to give their compliments and thoughts to new investors to avoid losses, and the responses were as follows:

1. No
2. Even though exchange platforms made it easy to trade but for new traders doing trade on features can be killer.
3. As the wallet addresses are super vital, new traders should always have the key in some hard memories saved.
4. New traders should have a great study of the industry-first before placing any transaction else there is a chance of failure in every move they are making
5. It's wise for everyone to double-check all their moves before taking any action as I had a bad failure because of not being so accurate
6. As someone new into trades the only thing that can guarantee you the profit is knowing when to sell and when to buy and that you will get to learn by professional accompany
7. Everyone need professional and technical advice from professionals
8. The exchange platforms should the problem of failed transaction that if you put an incorrect address your money should come back to your account
9. No
10. Be updated and study the market

Out of 10 responses to this question, two of them had no particular suggestions (respondents 1 and 9), two insisted on having a professional accompany or advisor (respondents 6 and 7), four of them mentioned that new investors should have a great study of the markets and be updated about all the incidents that are happening in cryptocurrency markets (respondents 2, 4, 6, 10), two mentioned that new investors should double-check all their moves and don't lose their wallet address. (Respondent 3 and 5).

In this section, the attendees of the survey were asked that if the technology of exchange websites helped them except for two replies out of ten replies they all stated that it was helpful. Following that, they were asked about their success factors, which were listed and discussed, and last part they were asked to give their advice for new investors to avoid loss which all were listed and discussed.

3.2.3.4 Findings

To find out that how to avoid risks in these markets, the responders in the survey were asked if the technology used by cryptocurrency exchanges helpful for them, mostly the responses were positive which means that despite the major challenges that can threaten investment in the industry still the technology is helpful, as a next step they were asked to list their success factors and the response were: learning from mistakes, a professional and experienced accompany, having good study and good timing in selling and buying. And the last part of this section was a suggestion to new investors, to avoid losses and gain good profits they should have a great study of the industry while doing transactions they should be careful and never lose their wallet address, for a better safety they should even a copy of it in a hard memory and keep it safe, take advice from professionals and never risk on trading in features if you don't have enough knowledge and skill.

According to primary data collected from responders of the survey which was conducted for this research, technology was very effective in helping investors overcome the threats. Mastering art of selling and buying, being patient, learning from failures, and having professional accompany or advisor are the factors for succeeding in crypto markets. They all can be achieved by education, and experience.

Some common suggestions of survey attenders were; having good study of market, not taking unnecessary risks, keeping the wallet in a safe address, avoid transaction fails by taking care and copying the correct addresses, and assigning a professional advisor.

3.3 Summary

This research analyzed the constraints of new investors in cryptocurrency markets, it determined that 90.9% of investors are faced/facing the major problems, i.e: manipulation, lack of price uniformity, activities of cyber criminals, and pump & dumps. It is also discussed that how small investors don't have an equal chance of successful investment as big investors. 81,8% of survey attenders stated that chances are not equal for small and big investors. As a particular limitation the failure in placing order due to lesser amount of investment for limited coin offers was discussed according to this research 63,6% of responders out of 11 responses stated that they failed to place an order due to lesser amount of investment compared to others. The particular problems faced by individuals in the industry were also discussed that most individuals had suffered losing their wallet address, placed a wrong transaction, holding when prices were falling, or selling before prices were rising. The factors beyond these problems were mostly lack of experience, lack of knowledge, sudden market fluctuations, and threats made by big investor's decisions. As assessed by this research the threats for new investors are their lack of experience, lack of knowledge, unnecessary stress, ego and excitement about new opportunities and most importantly falling for scams and believing in rumors.

In the second part of this chapter, the particular challenges were listed market fluctuations, manipulations, and making wrong decisions due to lack of skills, experience, knowledge. According to different aspects they can be classified as Minor and Major or Technical or Humanized errors, Avoidable and Un-Avoidable, and Technological and Financial Problems.

In the third section of the chapter, the efficiency of technology in cryptocurrency exchanges was analyzed that most of the responders were satisfied with it, the success factors of investors were also discussed which was learning from mistakes, finding professional accompany, studying the market, being updated about the news and incidents in the cryptocurrency industry. The suggestions for new investors to avoid losses were: being super curious about the wallet address, double-checking before making any move, studying the markets, never risk trading on features unless they have a complete study of the prices, have an accompany who is professional.

3.4 Suggestions

1. The exchange websites should solve the problem of cutting investors' money after an error transaction, and when an investor mistakenly forgets the last digit of the receiver's address the money should come back to the sender's account and not get lost.
2. As a huge amount of money is getting circulated in these markets, the cryptocurrency industry can be a great boost to economic growth in every country, so governments should take some serious steps in regularizing the business and take out the banning's out of cryptocurrency way.
3. To prevent loss of investment by individuals the manipulation attempts by exchanges and big investors should be limited.

3.5 Further Research

1. The present study broadly studied the constraints of new investors in cryptocurrency markets, and it mentioned some of the constraints for new investors thus further research can be done particularly on one specific constraint like the limitation of small investors in placing the order for coins with the limited amount of offer.
2. In this research constraints were broadly classified according to different aspects into minor and major, technological and financial, technological and humanize, and avoidable and unavoidable, further researches can be done particularly on classifying these constraints according to specific aspects.
3. In this research the success factors of new investors were discussed further research can be done specifically on any one of these factors.
4. Sample size for this research was 25 people who all were new investors, further research can be undertaken using larger samples.

3.7 References

1. Milton Friedman, <https://tradingbeasts.com/featured/cryptocurrency-quotes/>
2. Nian, L. P., & Chuen, D. L. K. (2015). Introduction to Bitcoin. Handbook of Digital Currency, 5–30. doi:10.1016/b978-0-12-802117-0.00001-1
3. Valdeolmillos D., Mezquita Y., González-Briones A., Prieto J., Corchado J.M. (2020) Blockchain Technology: A Review of the Current Challenges of Cryptocurrency. In: Prieto J., Das A., Ferretti S., Pinto A., Corchado J. (eds) Blockchain and Applications. BLOCKCHAIN 2019. Advances in Intelligent Systems and Computing, vol 1010. Springer, Cham. https://doi.org/10.1007/978-3-030-23813-1_19 30
4. Jyoti Singh, Bitcoin Mining: Top 5 Countries With Highest Share Of Mining Hashpower 2020, September, <https://www.cryptoknowmics.com/news/bitcoin-mining-top-5-countries-with-highest-share-of-mining-hashpower/> 14
5. Santosh, Sreyas..”A study on the evolution of money from ancient commodity money to digital money” 2021 23
6. Metkan Awatnakarn, money in digital era, <http://rs.mfu.ac.th/obels/?p=1675> 15
7. <https://coinmarketcap.com/> 8
8. Santosh, Sreyas..”A study on the evolution of money from ancient commodity money to digital money” 2021 23
9. Blockchain Revolution: How the Technology Behind Bitcoin Is Changing Money, Business, and the World by Don Tapscott, Alex Tapscott.” Academia.edu, www.academia.edu/40526308/Blockchain_Revolution_How_the_Technology_Behind_Bitcoin_Is_Changing_Money_Business_and_the_World_by_Don_Tapscott_Alex_Tapscott 2
10. Nakamoto, S. (2008) Bitcoin: A Peer-to-Peer Electronic Cash System. <https://bitcoin.org/bitcoin.pdf> 17
11. Harvey, C. R. (2015, March 1). Do Cryptocurrencies Such as bitcoins Have a Future? The Wall Street Journal. Retrieved from <https://www.wsj.com/articles/do-cryptocurrencies-such-as-bitcoinhave-a-future-1425269375> 7
12. Grinberg, Reuben, Bitcoin: An Innovative Alternative Digital Currency (December 9, 2011). Hastings Science & Technology Law Journal, Vol. 4, p.160, Available at SSRN: <https://ssrn.com/abstract=1817857> 6
13. Sanjeev Kumar, Nitesh Khatiwada, (PDF) Cryptocurrencies: The Revolution in the World Finance (researchgate.net) 22
14. Jon Southurst, bitcoin the first transaction, 2021, <https://coingeek.com/12-years-ago-satoshi-nakamoto-sent-hal-finney-10-bitcoins-the-first-transaction/> 12
15. Sudhir Khatwani, First Bitcoin Transaction, 2020 <https://themoneymongers.com/first-bitcoin-transaction/#:~:text=On%2022%20May%202010%2C%20two%20Papa%20John%E2%80%99s%20Pizzas,worth%20of%2010%2C000%20BTC%20is%20around%20%2436%20million.> 27
16. Nakamoto, S. (2008) Bitcoin: A Peer-to-Peer Electronic Cash System. <https://bitcoin.org/bitcoin.pdf> 17
17. John Hawkins, 2021, <https://theconversation.com/bitcoin-this-year-i-stand-to-make-200-million-more-than-elon-musk-155469> 11

18. https://en.wikipedia.org/wiki/History_of_bitcoin 9
19. Shanmugam, B., Azam, S., Yeo, K. C., Jose, J., & Kannoorpatti, K. (2017). A critical review of Bitcoins usage by cybercriminals. 2017 International Conference on Computer Communication and Informatics (ICCCI). 26
20. Swan, M.. “Blockchain: Blueprint for a New Economy.” (2015).<https://www.Britannica.com/topic/cryptology> 28
21. RonHipschman, The secret language
[https://www.exploratorium.edu/ronh/secret/secret.html#:~:text=The%20study%20of%20enciphering%20and,\(graphic\)%2C%20or%20writing](https://www.exploratorium.edu/ronh/secret/secret.html#:~:text=The%20study%20of%20enciphering%20and,(graphic)%2C%20or%20writing) 20
22. ADAM HAYES, Stable coin, 2021<https://www.investopedia.com/terms/s/stablecoin.asp> 1
23. New yorker 2011, Joshua, Davis 18
24. Shaikshakeel Ahamad, Madhusoodhnan Nair, Biju Varghese, 2013; A survey on Cryptocurrencies 25
25. by James West, crypto market manipulation, 2019,<https://www.bitcoinmarketjournal.com/crypto-market-manipulation/> 3
26. Cryptocurrency Pump-and-Dump Schemes, Tao Li, Donghwa Shin, and Baolian Wang* February 9, 2021((Aggarwal and Wu, 2006; Leuz, Meyer, Muhn, Soltes, and Hackethal, 2017)) 5
27. Wash trading at cryptocurrency exchanges Gu´enol’e Le Pennec a, Ingo Fiedler a,b,c,*, Lennart Ante a,b a Blockchain Research Lab, Max-Brauer-Allee 46, 22765 Hamburg, Germany 31
28. SergioZammit, how many cryptocurrency exchanges are there,<https://www.cryptimi.com/guides/how-many-cryptocurrency-exchanges-are-there> 24
29. JoséRodríguez, Read more at <https://ihodl.com/analytics/2020-08-13/these-3-cryptocurrencies-have-fastest-transaction-speed/> 13
30. RushabhParmar, XinFin vs Ethereum, 2020 <https://dzone.com/articles/xinfin-vs-ethereum-whats-the-better-alternative>, 21
31. The Problems of Cryptocurrency Thefts and Exchange Shutdowns 27th February 2018 Usman W. Chohan, MBA School of Business and Economics University of New South Wales, Canberra 29

Annexure Questioner

1. have ever suffered any of these challenges while trading in crypto currency markets?(Manipulation, P&D, Lack of price Uniformity, Transaction delays, scams and activities of cyber criminals)
2. Was there any other type of problem you suffered that wasn't listed? mention please
3. What was the main reason you had to face this constraint?
4. Do small investors have equal chance in compare to big players in the market?
5. You ever experienced not placing any order due to less amount of investment
6. How you list the reasons behind the constraints for new dealers in the crypto markets
7. How you group these constraints
8. Did the technology of exchange websites helped you over come the common problems face by individuals
9. What were your success factors in the market?
10. What are common threats for new traders?
11. Any compliment you are interested to add?