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**ICO INVESTMENT SIGNALS**

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2019 Izmir

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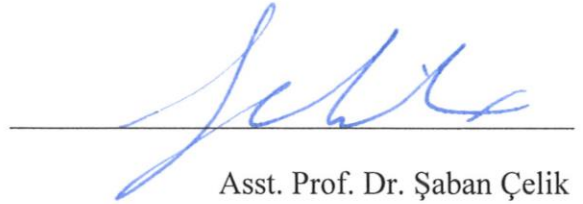
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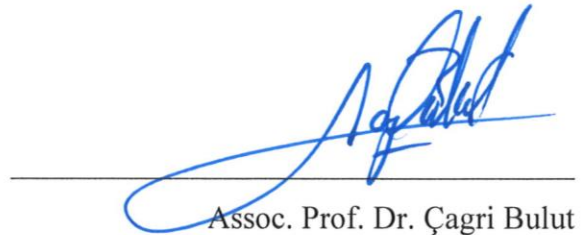
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# **ABSTRACT**

## **ICO INVESTMENT SIGNALS**

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An initial coin offering (ICO) is a funding mechanism used by projects to sell their crypto-token in exchange for Bitcoin, Ether. It can be defined as a replacement of the IPO in the new digital currency economy. As ICO become trending topic, helps projects to be funded in a short time and promise high-profit margin, it attracts the attention of the investors.

The primary purpose of this study is analyzing the determinants, which impact the decision of investors during the ICO process. We have listed many potentials signals including Marketing channels (social media, advertisement, communities, emails, influencers), Whitepaper (Roadmap, Technical structure, Team Size, Advisors), investment motivation (long term, industry interest, involving in pump and dump schemas) and asked research attendees to give us their opinion about each of the factors.

**Keywords:** Cryptocurrency, ICO, Initial Coin Investment, Investment Strategies, Digital Currency

# ÖZ

## ICO INVESTMENT SIGNALS

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Kripto para arzı (ICO), projelerin kripto paraların Bitcoin ya da ether karşılığı satılarak fonlanmasını sağlayan bir yatırım yapısıdır. IPO fonlama yapısının digital para ekonomisinde karşılığı olarak tanımlanabilir. ICO popüler bir konu haline geldikçe projelerin kısa zamanlı gerçekleşmesini sağlaması ve yüksek kar oranı vaat etmesi sebebiyle yatırımcıların ilgisini çekmektedir.

Bu çalışmanın ana amacı ICO sürecinde yatırımcı kararına etki eden faktörlerin analiz edilmesidir. Bu amaçla pazarlama kanalları (sosyal medya, reklam, topluluklar, elektronik posta ve etki sahipleri), tanıtım belgesi (yol haritası, Teknik yapı, takım boyutu, danışmanlar), yatırımcı motivasyonu (uzun vadeli, sektörel ilgi, Pump and Dump semalarında yer almak) gibi faktörleri içeren çok sayıda potansiyel sinyal listeledik ve araştırma katılımcılarına her faktör konusunda fikirlerini sorduk.

**Keywords:** Kripto para, ICO, Kripto Para Arzı, Yatırım Stratejileri, Digital Para

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Nurettin Ayarci

İzmir, 2019





## **TEXT OF OATH**

I declare and honestly confirm that my study, titled “*ICO Investment Signals*” and presented as a Master’s Thesis, has been written without applying to any assistance inconsistent with scientific ethics and traditions. I declare, to the best of my knowledge and belief, that all content and ideas drawn directly or indirectly from external sources are indicated in the text and listed in the list of references.

Nurettin Ayarci

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September 12, 2019





# TABLE OF CONTENTS

ABSTRACT .....	iii
ÖZ.....	iv
ACKNOWLEDGMENTS .....	v
TEXT OF OATH .....	vii
TABLE OF CONTENTS .....	ix
LIST OF FIGURES .....	xi
LIST OF TABLES .....	xii
LIST OF ABBREVIATIONS .....	xiii
CHAPTER 1. INTRODUCTION .....	1
CHAPTER 2. PROMOTION AND MARKETING EFFECT.....	4
2.1 Social Media Channels .....	4
2.2 ICO Communities.....	5
2.3 Friends Effect .....	6
2.4 Social Guru And Influencers Effect .....	6
2.5 Advertisement Effect.....	7
2.6 Airdrop Affect .....	7
2.7 Email Marketing.....	9
2.8 News Websites & Forums .....	10
2.9 ICO Listing Websites .....	11
CHAPTER 3. INVESTOR MOTIVATION .....	12
3.1 Project Idea and The Use Value of Token .....	12
3.1.1 The Industry Of The Project .....	12
3.1.2 Using The Token as a Utility .....	12
3.2 Pump And Dump Schemes.....	13
3.2.1 History of Pump and Dump .....	14
3.2.2 Which Coins Are Preferred? .....	15
3.3 Long Term Investing .....	15

CHAPTER 4. FOUNDER TEAM EFFECT .....	16
4.1 Founder Reputation .....	16
4.2 Team Experience .....	17
4.2.1 The Experience of The Team in Cryptocurrency.....	17
4.2.2 Advisor Quality .....	18
4.2.3 Partner Companies & Collaborations .....	18
CHAPTER 5. WHITEPAPER .....	20
5.1 Funding.....	20
5.2 Roadmap.....	21
5.3 Technical Features .....	22
5.3.1 Technology.....	22
5.3.2 Use Cases .....	22
CHAPTER 6. ICO SPECIFIC FACTORS .....	24
6.1 Liquidity .....	24
6.2 Hardcap/Softcap .....	25
6.2.1 Hard Cap .....	25
6.2.2 Uncapped.....	25
6.2.3 Soft Cap.....	26
6.2.4 Seed Funding.....	26
6.3 ICO Regulation .....	28
6.3.1 The Attitude of Countries Against ICO .....	29
6.3.2 Taxation.....	30
CHAPTER 7. FACTOR ANALYSIS OF SURVEY DATA.....	32
7.1 Research Methodology .....	32
7.2 Factor Analysis .....	35
7.3 Results Of The Analysis .....	39
CHAPTER 8. CONCLUSION .....	40
BIBLIOGRAPHY .....	42

## LIST OF FIGURES

<b>Figure 1.</b> Principal Component Factor Analysis Process.....	34
<b>Figure 2.</b> Scree Plot Graphic .....	34



## LIST OF TABLES

<b>Table 1.</b> Prominent ICOs which has raised fund in record time .....	2
<b>Table 2.</b> Top Industries by Funds Raised in ICOs in 2018 (Coin Telegraph).....	12
<b>Table 3.</b> Some of the popular utility tokens .....	13
<b>Table 4.</b> ICO Bench Market Report 2018 -Top 10 ICOs by Hard Cap.....	27
<b>Table 5.</b> ICO Bench Market Report 2018 -Top 10 ICOs by hard cap Raised.....	28
<b>Table 6.</b> Elements used in factor analysis .....	33
<b>Table 7.</b> Removed elements at each round of factor analysis .....	35
<b>Table 8.</b> KMO and Bartlett's Test for the final round .....	36
<b>Table 9.</b> Total Variance Explained.....	37
<b>Table 10.</b> Internal consistency of the factors.....	38
<b>Table 11.</b> Correlation matrix of the resulting factors .....	38
<b>Table 12.</b> Resulting factors and distribution of elements .....	38

## **LIST OF ABBREVIATIONS**

ASIC	: Australian Securities and Investments Commission.
ERC20	: Ethereum Request For Comments.
ICO	: Initial Coin Offerings.
IPO	: Initial Public Offering.
MVP	: Minimum Viable Product.
SEC	: Securities & Exchange Commission (US government).



# CHAPTER 1

## INTRODUCTION

2008 was a remarkable year known as a year that the financial market crashed in the United States and spilled over to Europe and Asia. Moreover the first peer to peer decentralized cryptocurrency called Bitcoin protocol was introduced (Chuen, 2015). Bitcoin was announced on mailing lists and published as a whitepaper by the unknown person who uses the nickname “Satoshi Nakamoto” (Nakamoto, 2008). The purpose of Bitcoin was defined as decentralizing the payment system to create irreversible transactions. In the Whitepaper Satoshi Nakamoto describe the need for Bitcoin with the following sentences:

“What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party. Transactions that are computationally impractical to reverse would protect sellers” (Nakamoto, 2008, 1)

The revolution which started with Bitcoin has been followed by thousands of alternative tokens which are designed for different purposes from financial service to e-commerce, communication, and many more. With the introduction of the ERC20 technology, it becomes even easier to structure new projects, which also helps Initial Coin Offering (ICO) strategy to become common practice among startup founders.

First ICO was launched by Mastercoin in 2013. In the whitepaper which is announced as “The Second Bitcoin whitepaper” the claim of J.R. Willett, the creator of Mastercoin, was “the existing Bitcoin network can be used as a protocol layer, on top of which new currency layers with new rules can be built without changing the foundation.” (Willett, 2012). Purpose of this coin was allowing Bitcoin users to generate smart contracts without leaving the Bitcoin set up.

Inspired by the quickly raised funds, many startups announced their own token. Moreover, in the early growth period of ICOs (2017), 169 ICOs raised US\$2.5b by taking advantage of the trend (Boreiko and Sahdev, 2018).

Thus investing ICOs has become a trend as people got exposed to more news and knowledge on cryptocurrencies and blockchain technology. Several prominent ICOs help illustrate the rapid evolution of the ICO market. The term ICO has been derived from the IPO (Initial Public Offering), which defines the method that enables well-established companies to raise money (Jaffe, 2018). ICO is used by crypto-affiliated companies which plan to launch a new token-based utility or service

funded by the investors. Table 1 below shows a few prominent ICOs, how the ICO market has gained momentum with examples (Innmind, 2017).

**Table 1.** Prominent ICOs which has raised fund in record time

<b>Date</b>	<b>Startup</b>	<b>Capital Raised</b>	<b>Time</b>
April 2016	Gnosis	\$12.5 million	10 minutes
May 2016	First Blood	\$5.5 million	2 minutes
June 2016	Bancor Foundation	\$153 million	3 hours

In this study, a comprehensive list of potential elements which can impact the business decision of the ICO investors is developed. Compared to most studies, which focus on a specific set of aspects, we tried to cover many aspects, including marketing, project team, Whitepaper, and regulations. Aside from business factors, we also include social factors like the impact of the social circle and investor mindset (whether they are planning to make long term investment or just want to involve in pump and dump schemas).

The ICO investing signals we consider consist of promotion and marketing effect, investor motivation, founder team effect, whitepaper, ICO specific factors. .In the first section, we focus on the impact of various promotion and marketing techniques on investment decision. This part contains the social circle and online communities and influencers in order to understand which marketing methods and channels can influence the decision of investors.This chapter contains traditional marketing channels like advertisement and news website as much as relatively new marketing channels like airdrop and online communities.

In the second section, the motivation of investors, whether they are interested in the idea or short term profit, has been discussed. Since the ICO market is seen as a volatile market, the intention of the investor carries importance. This section is followed by the founder and team affect section, which is considered as one of the crucial factors since they are the people who will turn an idea into a real product.

In the fourth section, the content of the whitepaper is discussed since whitepaper is seen as the most detailed document about the project. A whitepaper contains technical and business-related details and roadmap, which gives an investor

an idea about the vision of the project teams. This section is followed by ICO specific factors (soft cap,hard cap, and ICO regulation).

In order to obtain the vital elements among all these potential signals, a survey has been prepared and present to the ICO investors about their opinion about the relative importance of these signals on their investment decision. The last section presents the research framework and methodology and the result of the explanatory factor analysis, which is applied to the collected data. In light of this analysis,the paper concludes the key elements which are considered as significant ICO investment signals.





## CHAPTER 2

### PROMOTION AND MARKETING EFFECT

#### 2.1 Social Media Channels

Social media channels are one of the tools for marketing purposes for companies in many different industries, and ICO is not an exception. When it comes to marketing, social media is seen as both a curse and a blessing, depending on how it is utilized. Social marketing strategies used by big corporations are always a matter of discussion. The most significant advantages of social media, compared to traditional media channels like newspaper and TV ads, are tracking and precisely measuring the impression that their posts get.

There are multiple uses for social media channels like sharing announcement and news regarding the products, interacting with the customer, and supporting them in case the customers face any issue. In the end, the company stakeholders want to protect the reputation of the company and not let any bad customer experience to spread in social media.

However, can we treat managing social media by the ICO in the same way as big and well-established corporations manage their social media accounts? Because most of the ICOs worry about creating their brand rather than protecting their existing well-established brand. As well known, the most significant advantage of an ICO is letting smaller groups fund their ideas, which otherwise would not be possible to fund without the capital and the innovation budget of the big corporations.

When we examine the use of social media during the ICO process, we can see it provides some benefits to both investors and the ICO team. With the help of social media, companies have a chance to create their community and inform their user about the latest news and promotion about their product. Similarly, most of the ICOs use social media platforms to inform their investors about the most recent announcements, roadmap updates, ICO, and exchange release dates.

On the other hand, from the investor perspective, social media means sharing an experience. In the era before the internet become popular, consumers and investors were able to share their experience with the limited number of people since building community and sharing feedback require a lot more effort than it is now. With the power of social media, gurus, and advisor can provide feedback to their social circle very quickly. Freedom that internet provides allows both big and small

investors to share their feedback with their circle. Investors can give their opinion, complaint, and also promote the coins they like with their followers.

Another critical aspect of social media is that they can provide many metrics to use. The number of followers and the impression of the average post (like, share, etc) can be seen as one of the signals which show the popularity of the token. In the end, investors might prefer to invest in a token, which has popularity. For example, research done by (Burns and Moro, 2018) has observed that there is a positive correlation between the number of Twitter followers and success of ICO. On the other aspect, social media impressions and follower counts are frequently criticized for being manipulated easily. As we will discuss in the airdrop section, social media impression can be easily manipulated by providing a bounty bonus coin to the user. Even though the success or failure of an airdrop practice depends on many factors, this practice is undoubtedly attracting some spammy or fake profiles to social media who are not very interested in making a real investment. Also, there are lots of social marketing companies which sell likes and followers to the social media account owners at a very reasonable price.

Assuming there are various aspects of usage of social media, we asked survey attendees about the impact of social media while making an investment decision on an ICO. As viral posts of a big corporation do not guarantee the sales, successful social media management might not be the primary determinant on the investment decision of the investor. During this research, we have tried to cover many social media websites, including Facebook, Twitter, Instagram, and Snapchat.

## **2.2 ICO Communities**

Cryptocurrency communities, Telegram and Slack, are seen as one of the factors which take a role in the success of an ICO. While some ICOs use their community chat group as a marketing platform, it is also possible to utilize these platforms as a customer support portal. Even though the concept of social media and messaging communities is seen as very similar, the strategy used in these platforms shows some differences.

In contrast to social media channels, messaging channels like Telegram and Slack enables companies to give support to the community members much faster.

Since most of the ICO projects have investors from all over the world, they assign more than one moderator, which enables them to give 24-hour support. The

main benefit of this practice is supporting users from different time zones. Generally, the latest news and announcements are announced in the community immediately even before it is posted on social media accounts. Communities are seen as one of the quickest ways to stay up to date with the ICO process.

ICO communities also allow members to send their feedback and ask their question to community managers and other members of the group. Thus, it also allows the user to have a feeling of being part of the team.

### **2.3 Friends Effect**

There is a common saying that “You are the sum of the 5 people closest to you”. So friends and relatives have an impact on the many decisions we have. However, is investment decision one of them? We asked our survey attendees whether they tend to invest in ICOs, which they hear from their friends or relatives.

### **2.4 Social Guru and Influencers Effect**

Influencers are one of the potential signals under marketing strategy. An influencer is one of the marketing forms where the focus is placed on individuals in order to influence the buyers. Since the lines between the genuine and paid promotion of the product have become harder to distinguish, influencer marketing gained significant power with the rise of social media (Woods, 2016).

Moreover, influencers have been trusted by not only ICOs also traditional companies. For example, Tesla gives money to YouTube influencers to promote his material. Moreover, Elon Musk uses his own Twitter account to create a connection with its customers. (Robbie Vann-Adibé, 2016). As the market for ICOs has grown, people have started to use their profile to influence other people and convince them about the investment decisions and the future of crypto.

John McAfee is one of the most popular crypto influencers, which also takes a lot of coverage in mainstream media. And in contrary to most of the other social media influencer he is not one of the people who prefer to hide its identity. His opinion and estimations about the future of the cryptocurrency are sometimes perceived as visionary and sometimes crazy. McAfee predicts the price of the bitcoin will be 1 million till the end of 2020. (Laurent, 2018) On the other hand, some industry leaders, especially who come from the traditional finance industry, see him as one of the responsible people for the overvaluation of Bitcoin. However, there are

some economists who think, since cryptocurrency is something new, fresh economic thinking is necessary in order to evaluate the valuation process (Laurent, 2018).

Founders of the ICOs also try to influence their investors by using their own fame. Vitalik Buterin (founder of Ethereum), Charlie Lee (founder of Litecoin) are some of the persons who have over 800.000 followers (Chevalier, 2019).

On the other hand, for most of the social media owners, the most common way to influence their follower is using an anonymous profile. Since the influence and wealth of these groups are mostly seen as suspicious, many gurus prefer to use an anonymous name like CryptoCobain, CryptoYoda in the social networks (Chevalier, 2019). And as it is seen in the gurus in the stock exchange market as well, some of the influencers have been blamed for taking advantage of Pump and Dump schemas.

Most of the ICO investors use YouTube, Twitter, and Instagram as one of the information resources. Moreover, few of them like John McAfee also receive coverage on mainstream TV programs. While some people believe that since influencers create some community movement which makes them worth to follow, others believe they are abusing their power to manipulate the market.

## **2.5 Advertisement Effect**

One of the significant differences between ICO companies and traditional companies in terms of social media management is advertisement. Even though ICO ads have been widely used in the early phases of the ICO trends, currently social media managers have more limited promotion options. The reason is the fact that most of the social media started to ban social media advertisement since many scam projects promote themselves via these social media channels. Twitter, Facebook, and Snapchat have been some of the social media which take a role in this movement (Zhao, 2018). While some of the companies only restrict this ban to ICO and allow general cryptocurrency-related advertisements, some companies even follow more strict rules.

## **2.6 Airdrop Affect**

Airdrop is a process of giving away free tokens to early adaptors to make the community spread a word about the ICO or completing a particular task. While some of the ICOs provide token without any task, most of them will ask potential investors

to contribute to the community and join social networks. Generally, token amount to be given away is defined for each task according to their priority and importance in ICO process

The primary purpose of the airdrop is raising the popularity of the token by using the network effect and raising the awareness about the token in order to increase the prices of the token in the future (Bheemaiah, Collomb, 2018)

Another significant advantage of the airdrop for ICO is seen as making the community grow and increasing interaction for the ICO without spending much money. The more interaction the follower and the community have, the more awareness it can create.

However, the advantage of the airdrop is not only limited to marketing. Some essential tasks like community management and translation can be delegated to community members, which can provide a fast and cheaper option than outsourcing to paid service. When these factors take into account, airdrop can be seen as a win-win strategy for both parties. However, even though airdrop seems to be a useful strategy since it helps the community grow, some experts point out that it might negatively affect investor decision. Because the airdrop does not only attract the potential investor, it also attracts the people who only get involved in the airdrop because it is free. (Low-quality investor). Moreover, a big part of such users tend to sell the token as soon as the token hits the exchange, which causes sudden price decrease of tokens.

On the other hand, some people disagree on this. Even though the user gets a free token, people tend to value tokens they own more than the ones they do not hold. So the concept is perceived similar to endowment effect (also known as divestiture aversion and related to the mere ownership effect in social psychology). The endowment effect is a pattern that people attach more value to the item they own compared to the price they are willing to pay (Thaler, 1979).

One of the companies which take part in an airdrop is “OmiseGo” which give away 5% of the total amount of the token. Campaign. ( BJORØY, 2017)

In the survey, we asked the attendees their opinion about Airdrop, namely whether it has a positive or negative impact on their investment decision.

## 2.7 Email Marketing

According to the survey of Ascend2, email seems to be the second most effective communication channel after the websites (Patel, 2018). One of the reasons email marketing is preferred is that it gives the full control over the content and visibility. Social media platforms create a dependency on third-party companies, which can impact the visibility of the posts depending on the policy, algorithm change, and competitor's power. There is even a chance of accounts of the ICO can be banned because of not following the policies and rules of social media.

Compared to 2,5 billion monthly social media user, there is 3.7 billion active mail user all around the world (Clement, 2019). Moreover, the research of Campaign Monitor also shows people prefer to receive promotional content via email (%72) rather than social media (%17) (Harbin, 2018).

Another vital point about email marketing is that it can be used to provide one to one relation with the investor, which is not possible with most of the other communication channel like social media. As a result, it is possible to create customizable content for different segments which can provide a higher engagement rate. Researches have shown that even using some simple personalization, like including the name of the recipient at the beginning of the email can increase the opening of the email 20% and sales lead 30%. (Sahni et al., 2016)(Personalization in Email Marketing: The Role of Non-Informative Advertising Content\*)

Communities are used as a common method to announce the news to a group of people. But, what about sending a token notification? When a token is delivered to a specific user, it should not be announced to all community. Thus, email can also be used as a personalized communication channel to reach the investor.

There are two common strategies for collecting email address from potential investors. One of them is volunteer subscription to newsletter to hear the latest announcement, and the other one is the Whitelist feature. Some ICOs only allow investors to invest in ICO when they are whitelisted. And one of the primary conditions to getting whitelisted is sharing your email address which also allows ICO owners to verify the investor identity and providing direct communication with the whitelisted user in the future who already shows interest in the token.

If email campaigns are provided in multiple languages, most of the time, the customer is segmented according to their region and language preferences, and more custom email content can be sent to the client.

Other common usages of email inform the user about the pre-sales status, technology change, white paper update. These kinds of announcements are also done in social media and communities. However, due to the high volume of the messages and spams, it is hard to focus on valuable content without distraction and spending much time.

One of the other advantages of Email marketing compared to other social media; it lets the investor follow process even after the ICO process is over. People tend to follow communities at a particular timeline, for example, before investing, or it hits the exchange. Outside of this process, interaction in the social media and communities decrease significantly. In contrary to social media, email can be used to create a solidifying relationship with the audience (Lewis, 2018).

## **2.8 News Websites & Forums**

People on social media and news forums spend hours researching news and information regarding ICO investing. This implies that the companies who wish to make an ICO should consider reaching target investors through website news and other forums. Cryptocurrency's space for the investment world can be affected by other factors like advertisements and ICO listing websites. Websites news and other forums can help companies in a variety of ways regarding raising the money for investment.

The features of news websites and forums are essential media channels can influence on the investment decisions made by ICO investors. First, the website news offers personalized news where an investor will be informed of specific templates only. For instance, if a negative viral story about a company which is intending to raise ICO comes up, the number of investors who are interested in investing in ICO can decrease dramatically.

Similarly, these forums act as a channel for networking the investors where they can discuss the ICO on their own, considering the news and come up with new opinions and decisions. Therefore, being social platforms, these websites can influence the investment decisions made by ICO investors vastly. A tangible online community can be used to mobilize investors as they have access to information every day, affecting their way of thinking.

The Ad Campaign idea is also crucial in influencing ICO investor's decisions. For instance, some firms might advertise ICOs as a form of crowdfunding. When the

advertisement companies reach out to investors on this basis, they might convince the target audience to invest in ICOs.

## **2.9 ICO Listing Websites**

In a world that ICOs are fighting to get attention from investors, other useful media channels for ICO owners are ICO listing websites. The most significant advantage of this media is seen as the target audience. In the other popular media and social media channels, it is possible to reach a vast audience. However, most of the audience is not the target audience that ICO owners want to reach. On the other hand, ICO listing websites already have a quality audience who is looking for next ICO to invest. Some of the popular ones are Icobench, Coincodex, Coinschedule, CryptoSlate, TokenMarket.net, Icomarks, Trackico.co, Icorating.com, Tokentop.

Most of the listing websites have standard functionality like announcing the ICOs and their basic information (hard cap, soft cap, ICO price, founder and teams) some of them also provides detailed reviews and pointing system. So as a concept, it aims to make the investors job much easier by providing analysis and details regarding the ICO process. Some of them even have a dedicated editorial team who focus on ICO review. However, their trustworthiness is always discussed. News and gossips regarding paid review hurt the credibility of these websites. However, for some investors it is still a fast way to have an overview of the ICO since reading the whitepaper and following up the ICO process of thousands of the ICO requires lots of time and effort.

Accurate and updated information in the ICO listing websites contributes highly to the decisions made. Accurate information can help investors yield profits if the intelligence is genuine as it will assist investors to avert risks by describing the white papers of each ICO. Consequently, inaccurate information from the ICO websites can result in losses on investments.



## CHAPTER 3

### INVESTOR MOTIVATION

#### 3.1 Project idea and the use value of token

##### 3.1.1 The industry of the project

Most of the ICOs are promising to revolutionize different type of industry. Moreover, assuming the potential and the target group of each industry is different; this is also seen as one of the factors which impact the decision of the investors. According to a report of Cointelegraph, in 2018, data, it can be easily seen a significant portion of the investment has focused on the Platforms and new blockchain technologies which is followed by Business services and Fintech solutions (Banking, Investment) (Pozzi, 2019).

**Table 2.** Top Industries by Funds Raised in ICOs in 2018 (Coin Telegraph)

Industry	Total Funds Raised	Number of ICOs
Platform	6.070 Billion	1376
New Blockchain	4.198 Billion	1111
Business Services	2.406 Billion	654
Banking	\$2.245 Billion	276
Investment	\$2.185 Billion	528
Smart Contracts	\$1.633 Billion	451
Internet	\$1.606 Billion	335
Software	\$1.58 Billion	407
Media	\$1.31 Billion	208
Infrastructure	\$1.261 Billion	276

However, since this data cannot independently explain how much the industry affect the decision-making process of the investors, we ask our survey attendees their opinion about the impact of the industry on their decision.

##### 3.1.2 Using the token as a utility

With the impact of blockchain startups, utility tokens become one of the most popular token types. Even Though utility token has shared some similarity with the security tokens, one of the biggest pros of a utility token is seen as easily being listed on exchanges and traded quite easily. Utility tokens have more purpose than raising

funds; they are also designed to be spent in the blockchain ecosystem, which provides quick liquidity.

Utility tokens have many use cases from peer to peer transaction services to gaming and betting. Some famous examples of Utility tokens are Ethereum (enables the participant to create smart contracts), and Filecoin which offer data storage in exchange with the token. This purpose oriented design provides tangible advantages to ICO. (Sockin and Xiong, 2018). As it can be seen from the examples, most of the successful utility token shared following common advantages:

1. Token generally provides some award and provide first moving advantage
2. Payment system valid in a specific sector
3. Have a fixed supply amount
4. Have a strong community behind

Utility tokens are generally built on ER20 Ethereum standard, which allows companies to build their decentralized app based on the Ethereum standard. Some of the example tokens can be seen in the table.

**Table 3.** Some of the popular utility tokens

<b>Token</b>	<b>Utility Type</b>
Pundi X	Reward
FieldCoin	Application
Ethereum	Smart Contracts Utility
KartBlock	E-Commerce
BrickBlock	Investment Access
Dogecoin	Mostly donation
Steam	Content Marketing
Get	Ticketing Platform

We asked our attendees how motivating for them to invest in ICO because they know they will able to use it as a utility.

### **3.2 Pump and Dump schemes**

In economics, Pump and Dump scam can be defined as the act of promotion of stock by a particular group of investors who aims to convince the user to invest in the specific stock and to gain profits by selling the stock immediately when the price has reached to a specific value (Investopedia, 2019). Pump and dump cause short term bubbles, which feature a significant increase in price, volume, and velocity (Li andWang, 2019).

### 3.2.1 History of Pump and Dump

Even though the roots of pump and dump practice is old for traditional investment, with the anonymity that cryptocurrency markets provide, the scope of this practice has expanded to almost 2000 cryptocurrencies. While the targets and tactic used in the traditional and Crypto schemes are very similar, the most significant difference is timescale. While in traditional markets, timescale is measured with months, in crypto markets, this timescale can be measured with only minutes (Li and Wang, 2019).

The digital age makes the manipulation even easier than it used to be because of the anonymity and speed it provides. According to research done by Imperial College London over the 100 telegram group, two pump event per day has been organized in these groups, which encourage investors to spend seven million dollars per month (Brogan, 2018).

The characteristic feature of these apps is providing more anonymization compared to traditional messaging platforms. For a planned pump, the time pump will take place is announced in the group at least one day before. The token to pump is only announced to the community only in that explained time (Li and Wang, 2019).

Telegram and Discord are commonly used messaging service for the announcement since they have more than hundreds of millions of potential users when they are combined. Moreover, another advantage of these apps allowing users to create a group with thousands of users. (WhatsApp and other messaging platforms were restricting the number of users that the community can have in the earlier phase) According to the research in 6 months period of 2018, in Telegram 3767, in Discord 1051 different pump signals have been advertised (2019).

Another common tactic used, like it is used in traditional markets, is spreading misinformation. Promoting not existent project, fake collaboration, and partnership news in order to convince investors to buy coin- Either anonymous users generally spread this news on groups or by imitating real account in order to gain more credibility. For example, creating a fake twitter profile for the ICO founder with the same display name but with small typo like an extra or missing letter in the username confuse user to believe this tweet is coming from the ICO founders or Crypto Gurus. Also, most of the time, these fake tweets are supported by hundreds of fake profiles with comments and likes in order to gain post extra visibility on Twitter.

### **3.2.2 Which coins are preferred?**

Generally, the tokens with low volume, market cap, and price are chosen as a pump and dump target (Kamps and Kleinberg, 2018). The bigger the market volume, the harder to create significant price increase and decrease due to big players who prefer to stay in the coin for long terms. Generally, when the price of the coin increases significantly and becomes one of the most profitable coins in the crypto list, it draws the attention of new investors. Moreover, the mentality of the “is this going to be next Bitcoin?” generally helps new investors to invest in those coins.

Even Though there are lots of pumps and dumps group which can be quickly joined without making any payment, there are also a significant number of groups who require premium or paid membership. Also, generally, paid groups are also related to free groups. These paid groups mostly provide early access to pump and dump signals.

### **3.3 Long term investing**

HODL is a slang word used in the crypto community for holding the token instead of selling it. This word is originated from the message on the Bitcoin forum, which is actually just caused by typo error. “I AM HODLING,” the subject line of the message become so popular it has been listed as one of the fundamental terms that each Crypto Currency investors know (Serrano, 2018). This phrase initially implied that regardless of the fluctuation in the price of the bitcoin, bitcoin should be considered as a long term investment. When investor “hold” a coin, it mostly means they believe the potential of the coin and want to hold it for the long term.

One of the biggest arguments that HODLers have is the price history of the bitcoin. When the bitcoin first hit the exchange on bitcoinmarket.com on 17 March 2010, the price of the bitcoin was \$0.003. However, in 2013, the price of the bitcoin has risen to 1.242 USD increase, which helps bitcoin receives significant coverage at the media (CoinMarketCap, 2019).

These sudden price increase, which is not very common in the traditional economy, encourage people to wonder whether there will be a similar increase in the future. While HODL movement has a positive impact on the price of the bitcoin, some analyst believes “Hodling” movement only makes the overrated crypto balloon to keep getting bigger. In this research, we asked our survey attendees how long they want to keep the token in their portfolio they invested in ICO process.

## CHAPTER 4

### FOUNDER TEAM EFFECT

ICO investing is known with more significant risks than IPO investing, given the existence of only the blueprint and no other physical assets. Where the investor intends to get a return for what they have put in, ICO investment may seem less likely a choice since it is merely an idea that someone sells then kicks it off having got the funding they so seek. Compared to other forms of investment, it is viewed as an abstract concept with no guarantee of return on the investment. These factors could be the most significant reasons investors may not be willing to entrust their investment to an untested and unverified idea. The feasibility study conducted on ICO investing may not be enough to build trust between the merchants. This may be caused by the unfamiliarity of the investors who are drawn from all parts of the globe, combined with the system uncertainty that has been on the rise in the industry. All these factors make people dubious about making an investment. This is the kind of perception that should be running in the mind of the ICO investment founder to ensure that they build a complete team that will enable them to achieve the goals sooner than later.

Also, the projects of the high-quality projects expected to disclose information more frequently and be transparent compared to low-quality projects which try to hide investor from the investor. (Roosenboom and Kolk, 2018). The trust built on potential investors increases the chances of larger investments and quicker achievement of the targeted amounts, which supports to rapid inception of the projects. This then is the focus that will make investors consider the founder effect, the effect of the team members such as is related to their experience in cryptocurrencies and associated skills in matters finance (where it is necessary), the advisors and the partner companies if any. These factors seem as building blocks of the trust needed by investors before they can invest their money.

#### 4.1 Founder reputation

Every investor wants security for what they put in. Traditional money-raising schemes and the safety of assets and physical locations, as well as goods or services to trade-in. However, both conventional investors and investors in ICO projects have a straightforward fact: they somehow rely on another person's effort for them to get

returns. This is the fundamental reason and principle behind the impact of who the founder of an ICO investment scheme is.

To give the assurance needed to encourage people to invest big, or more people to spend, the founder must be traceable and validated through a variety of means such as online platforms which must indicate consistency of activity and not new accounts tailored just for the project. The founder(s) must clearly show that they can be trusted with the investment project given that unlike the traditional systems and IPOs, there is nothing physically accessible about the ICOs. The tokens so invested in are not a sufficient guarantee; hence, the most a founder can do is to make him or herself the trustable persona by having a standing profile and picking the right team.

## **4.2 Team experience**

Beside from founder, following aspect of the team should also be taken into account.

1. The team behind the ICO project
2. Advisors and what will be their contribution to the project and whether they will be involved in the marketing of the ICO directly.
3. Does the team have any experience in the area that ICO will be released?
4. Does the team have any blockchain experience?

### **4.2.1 The experience of the team in cryptocurrency**

Just like the founder, the team he or she is to work with should be marketable to enhance trust and improve the assurance to the potential investors that the investment they are putting in is safe. The founder may have a spotless personal profile, but with the wrong hands forming the team, it may all be unworthy. Information regarding the founder and management team is considered as one of the success predictors for the investors (Frydrych et al., 2014).

Knowledge in cryptocurrency thus comes in handy to the members of the team since the whole dealing will be about this concept during the development of the coin. Education level and sector-related experience of the management team is perceived as essential from the investors perspective, which also carries importance in the other crowdfunding methods also (Frydrych et al., 2014). The team must have

experience and relevant knowledge in dealing with ICOs; both for the kick-starting and maintaining successful management.

When an investment is about something financial, the team needs to have the requisite knowledge. This will be higher proof to the investor that the founder is on the right path through the constitution of his or her team. No one wants to risk their investment to untrained personnel. Call it inviting a lawmaker to the operation room to conduct brain surgery.

#### **4.2.2 Advisor quality**

Advisors are the mentors and supporters of the ideas on how the ICO will run from inception. They must, therefore, have vast knowledge and expertise needed to run the ICO project successfully. They are the persons who will be giving the commands for execution by the team running the whole project and must prove themselves worthy of the trust. At the least, they should have complete profiles, solidified with quality credentials from reputable institutions.

#### **4.2.3 Partner companies & collaborations**

Partnering with a reputable company makes the project more attractive and plays a significant role in inviting investors to put in their money. According to Hugo Jacques, CEO of BlockChain Impact LTD, recognized partner, investors interest are one of the main factors considered by the investors in order to invest in blockchain fund (Chan, 2019). The investors will be welcomed by the fact that existing investment, such as a well-known company is already up by the side of the ICO. Where there is no such company investors may lose the confidence and regard the entire investment a very considerable risk.

Most companies do not operate isolated; they have partners around the globe. Some of these may be consumers of the product (B2B and B2C) while others act as financiers, consultants, and overseers of the companies engagements.

ICOs can have a partnership in different types.

1. Strategic partnership- this is a kind of partnership where partners stay independent, but take benefit from the contribution in strategic areas. ( E. Henderson et al.,2014). Partners approach the same problem together to achieve a solution. The partners depend on each other. Strategic partnerships one of the most appealing

forms to a potential investor as it enriches the ICO with the exchange of ideas, efforts, and resources

2. Reciprocal exchange partnership- partners agree on the level of interaction, and the exchanged of ideas is limited to the specific activity or project they have undertaken. This form is appealing to investors who want to major on ICOs who have specific user cases

3. Independent value creating a partnership: the partners each pursue their own goals but have affiliations leaned to create value. The value additions can even come from being affiliated to a famous company

One of the successful cases for a successful partnership is Microsoft and IOTA. When IOTA has announced they will have a partnership with Microsoft token price has jumped from \$1 to \$6 (Noble, 2018).

However, experts are warning against scam partnership news. For example, the announcement of “Arisebank ICO” having collaboration with Bitshares helped Bitshares token price doubled in the two days and drove a lot of traffic to Arisebank ICO (Aenigma Capital, 2017). However, this ICO turned out to be a scam, and its CEO has been arrested over an alleged multi-million dollar scam (Khatri, 2018).

So, the legitimacy of the partnership is vital as much as partnership type. Some companies act on the notion of “fake it till you make it” and spread information about having giant partnerships to lure in investors and other interested parties. The kind of partner an ICO claims to have should be a concern for several reasons:

1. Real partnerships provide a more sustainable practice given the established methodologies of the partners

2. Real partnerships can be used to predict future product and service development

3. Real and strategic partnerships show that the ICO is promising in the long run, can be trusted and is proof of concept.

4. The partnership indicates possibilities of value additions through a combination of strengths and resources and pursues common goals that would not be otherwise achieved independently.

5. The partnership creates a pool of viable solutions making an ICO more attractive.



## CHAPTER 5

### WHITEPAPER

The whitepaper can be described as a document which gives details about the problem that ICO tries to solve and how it tries to solve this problem by using the blockchain technology. (Lisk)

Whitepaper generally consists of the following sections:

1. Funding: How the funding process will work.
2. Roadmap: Milestones of the project
3. Token information: Number of tokens which will be released to the investor and will be kept to the team, Size of Token supply, when it will be released, and when it will be tradeable on the exchanges

Initial coin offerings offer a prioritized method for raising capital and outdo the fundraising challenge in startups by offering liquidity enhancement <sup>1</sup>. In the ICO world, the startups post the offerings just like IPOs and those interested purchase depending with their ability with pre-existing tokens or fiat currency and later get rewards in future provided the company performs according to a roadmap and is a success. This section discusses some of the crucial aspects that impact on making an ICO investment decision.

#### 5.1 Funding

The ICO funding projects are described as ventures with uncertainty and high-risk with information asymmetry between the entrepreneur and the potential investor. Before an investor puts their money in an ICO, the decision lies extensively on the prospects and expectations of success. During the evaluation of the project, the following aspects are considered:

1. How the funds will be distributed during the project development.
2. Is the founding value assigned to project realistic?

There are several funding aspects that an investor should consider. Some of these are:

1. Funding target- literature shows that for a crowdfunding project, there is a negative correlation between success and large funding target. Studies have shown that funders who prefer smaller targets, and consequent projects have a higher probability of being successful (Mollick, 2014).

2. Funding duration from an investor perspective, longer funding campaign duration shows uncertainty and efficiency while those with shorter funding campaigns exhume confidence in progress and more chances of success (Ahlers et al.,2015).

3. Provision on financials- ICOs that provide financial information and documents such as projections and forecasts act to reduce the uncertainty in investors as they clearly show the risk factors and gains.

## **5.2 Roadmap**

Most of the time, it includes 12-24 months of the plan for the project. Roadmap points out the completed stage of the project, and mostly alpha and beta stages of the project are included. Also, instead of the exact dates are specified with more general time format like “Q1 of 2020”.

While the roadmap may encompass a short-term plan meant to sell the idea, it is also flexible enough to allow changes that may be brought by the customer or the market changes. For the investors, it is crucial to be able to validate the status of the roadmap and whether it looks realistic. Since giving roadmap gives additional responsibility to the ICO team, it is seen as essential to give information about the potential delays which can happen during the project development.

Before investing in an ICO, the investors should consider whether the roadmap;

1. Orients towards the objectives much more than towards the features are developed and the profitability of the business operations
2. Illustrates the development phases of the product
3. Explains how the investor be involved in the project and how they (investors) can input their feedback.
4. Is flexible enough to adapt to feedback and hence has a continuous communication system established within the team, and the investors
5. Is flexible enough to deal with possible future obstacles
6. show the daily work and progress of the team to allow monitoring and real-time updates

The roadmap can also be used as a checklist after the ICO is finished to confirm whether the project is on the right track or whether there is any delay.

## **5.3 Technical features**

### **5.3.1 Technology**

The whitepaper should also contain the technical description and design of the project. How the ICO is planning to utilize blockchain technology is one of the fundamental questions. The experience of the developer and whether part of the technology is ready is mostly seen as a good advantage.

A variety of technologies are used in ICOs, but the underlying system involves the development of tokens (digital assets with an exchange value) through smart contracts. Smart contracts are the protocols which facilitate, verify, and enforce transaction in the digital age. (Suprunov, 2018).

Despite sharing many characteristics with software startups regarding the technology used, the software development contexts make ICOs unique. (Ibba, Pinna, Lunesu, Marchesi, & Tonelli, 2018)

Some of the questions that the investor should ask themselves concerning the technology are such as

1. Does the company provide the complete or partial program source code?
2. Is the blockchain technology behind the project P2P money or a distributed ledger technology or smart contracts?
3. Is the blockchain protocol open-source and based on the proof-of-work consensus mechanism, or is it based on the proof-of-stake consensus algorithm?

### **5.3.2 Use Cases**

Despite the hype created by the soaring evolution and successes of the blockchain technologies, investors ought to investigate on the use cases of an ICO before capitalizing on it. According to Rouse, a use case shows how the system will interact with its users about the objectives in a particular environment in order to achieve a particular goal (Rouse, 2007).

A use case details on all the activities the system carries out and all the possible scenarios where the users are affected. While in the early periods of 2017 investors were going for ICOs based on attractive the idea or project roadmap was, it is now crucial that investor should make sure that the product or service is MVP (Reif, 2017). Investors can do this by checking to ensure that the product has a real-world use through experts in a particular niche or third-party endorsements. ICOs

with endorsements from trusted media and networks shows their credibility in the use cases and can be an indicator of quality and success for an investor in decision making.

Investors can consider if the ICO offers some use cases such as

1. Tokenization- can be used to bind the physical assets with the digital world to authenticate the unique item (Bauerle, n.d.).

2. Can previously illiquid assets be converted into its tokenized form cheaply and efficiently?

3. Digital identity- Using a token to manage a user's identity in order to protect the user's private data every time they need to verify their identity. (Bauerle, n.d.).

4. Area of application – In which sector this data, this technology will be used? Example cases such as Energy market, protecting health data.

Besides the technology using some tokens like Ethereum has been designed to create an alternative protocol for building decentralized applications. This technology allows anyone to write smart contracts that they can define their own rules for ownership transaction formats (Buterin, 2015).

Even though the whitepaper is expected to be one of the primary information sources for token since it includes detailed information from the technical side to token distribution, the quality of the whitepapers is always the topic to discuss. With the increasing demands and different token released each day, whitepaper writing even becomes a job which can be outsourced for 100 dollars on Fiver (Wong, 2017).

## CHAPTER 6

### ICO SPECIFIC FACTORS

#### 6.1 Liquidity

Liquidity, as used in the financial markets and company setting, it refers to the ability of an institution to convert its physical assets into capital or finances. It may also be deemed to be the ability of a debtor to pay a debt when it falls due. Liquidity is also used to determine the stability of a company. This may be done by analysis the type of asset the company possesses and how well it plays out in the financial markets (Castagna and Fede, 2013).

As well indicated, Initial Coin Offering like all other cryptocurrencies, it is not dependent on the existence of physical assets for the operation of its business. The workings of ICO are dependent on the demand and supply of the virtual currency in the market. There are no physical tangibles whose value can be ascertained. There have been doubts cast by researchers on the ability of the Initial Coin Offering market sustaining itself. These doubts are spread by the fact that ICO has no physical assets that can be converted to cash. In addition to that, the cryptocurrency markets are trustless. They are fluid markets and are not subject to the strict mechanisms that are available for other forms of business trade. This then raises the question as to the probability of this company being declared bankrupt and its inability to pay creditors for any amount owed to them.

Primary resources which decide the liquidity of the token can be split into three main factors.

##### 1. Price appreciation:

Mostly come from the usage of the token but somehow can also be affected by speculation and media hypes.

For the usage-based tokens, usage can be from the adoption of the underlying good and services or usage of the token to access the system.

##### 2. Buybacks and burning

Buyback: When the ICO owners buy back its shares, it can create liquidity for the market also helps investors to exit from the coin.

Burning: Destroying all of the tokens which bought back. Since this decrease the number of token in circulation it increases the value of the coin by creating scarcity. It increases the percentage of a token than investors have.

### 3. Dividends

Distribution of the profit for all shareholders. Since this process has lots of regulatory difficulties and high cost, generally the least preferred way.

## 6.2 Hardcap/Softcap

There are lots of metrics that every crypto investor should know before investing. The soft cap and hard cap are one of the terms which are considered to be important in coin capitalization.

### 6.2.1 Hard Cap

Hard cap refers to the maximum amount of capital that can be raised during Initial Coin offering. *It is the limit above which the amount is returned to the investors* (Weaver, 2018). Since reaching this target is “good to have” rather than “must-have,” most ICO put hard cap values quite high compared to soft cap value. In most of the case, this target could not be reached during the ICO

Achieving a hard cap in the initial coin offering is dependent on the analysis is done and publicity the new currency has gathered over time. Its advertising ensures that several subscribers are willing to take part in the ICO hence making it available to the market. Quick achievement of the hard cap reduces the time that the ICO phase spans out (Purlev, 2018). It is because its realization primarily refers to the achievement of the goal that was set for the rolling out of the project. It is also worth noting that the funding of the ICO, mainly where a hard cap is achieved, it may be the checkpoints for the transactions that are carried out. The time limit specified for Initial Coin offering does not bind the sale if it is completed before the expiry of the term and the money raised is above the hard cap.

### 6.2.2 Uncapped

This practice helps in limiting the maximum amount, which can be invested ICO and keeping the investment ecosystem healthy. When there is a limited investor, there is less likelihood of excessive selling when ICO hits the exchange. However, there are also ICOs who does not have any token supply limit, which is called Uncapped ICO (Teutsch, Buterin, and Brown, 2017). which enables everyone to invest in ICO. Additionally, it also allows ICO founders to put extra money in case additional cash flow is required in order to sustain the project. One of the famous

examples of uncapped ICO is “DAO,” which retrieves a 150 million dollar investment. However, due to a security bug, a significant part of the funds have been stolen (Boreiko and Sahdev, 2018).

### **6.2.3 Soft Cap**

*The soft cap is the opposite of the hard cap. It is the minimal amount of money that needs to be raised by the new entrant into the market for it to be fully-fledged (Purlev, 2018).* This requirement ensures that the introduction of the cryptocurrency in the market is regulated and is not prone to the risks that come alongside with highly liquid markets. The soft cap is an aggregate of the expenses that are incurred in the development and rolling out of the new cryptocurrency. These costs include the operational expenses, development expenses, and any other costs incidental to the operation of the new product. (Weaver, 2018). In case the soft cap is not reached, in most situation, the project is terminated, and money is sent back to the investors.

In an attempt to set a soft cap for the Initial Coin Offering, the individuals must be aware of all available market policies and the requirements therein. This helps avoid the tough situation where there are investors, but the soft cap is too high. *This*, therefore, means that the seed funding mechanism was weak, and in case of urgent needs, the company may not be able to afford for its needs. This situation is especially essential in case the company at risk of liquidation and further loss of the investments made. Similarly, determining the soft cap helps in establishing the credibility of the cryptocurrency and open up the potential opportunities for expansion. It also plays a significant role in, robust growth of the crypto in the market when it is launched

### **6.2.4 Seed Funding**

Stage of ICO starts before the official ICO process. This funding type can be seen as a similar approach used outside of the ICOs. In this stage, the company looks for potential early investors by creating a pitch deck. In case a potential investor is found investment, terms and exit strategy is defined. The most remarkable advantage of seed funding is its effect on the soft cap limit.

In order to evaluate the hard cap and soft cap, the industry is also one of the significant factors which are considered as essential. If a hard cap is drastically lower or higher compared to the industry average, it is generally perceived as suspicious.

Besides from that, ICO analysis website Icoalert.com also notes that *“the innovative investor should consider whether the project is attempting to compete with existing incumbents, or with decentralized peers. This competitive scope can be used as a qualitative feasibility gauge; helping the investor evaluate inherent risks associated with competing with enterprise conglomerates”* (Argiro, 2018).

The market Analysis report of ICO Bench also points out to impact of setting hard cap target significantly big over the success of the ICO. According to 2018 market analysis report, 9 of the 10 top ICOs with significantly large hard cap failed to raise a fund. For example, Wysker, who promise user to discover products faster and earn token which can be used for additional discount, set hard cap as a “\$1.203.260.246”. However, since the community did not show any interest in the project, ICO could not raise enough fund and never been listed in any of the exchange websites (ICOBench, 2017).

**Table 4.** ICO Bench Market Report 2018 -Top 10 ICOs by Hard Cap

<b>ICO</b>	<b>HardCap</b>	<b>Funds Raised</b>
Wysker	1.203.260.246	Not Raised
Staramba	1.200.000.000	21 794 958
SPINDLE	1.189.354.726	Not Raised
Declub	1.000.000.000	Not Raised
AriseBank	1.000.000.000	Not Raised
Aaramco	805 000.000	Not Raised
FemaleToken	772.640.015	Not Raised
Futurepia	657.275.416	Not Raised
GCOX	600.000.000	Not Raised
World Bit Bank	581.057.549	Not raised

However, the same report also points it out another fact. When we investigate the ICOs who successfully raised the most funds in 2017, all of them has either negative ROI or have not even been listed on any exchange.



**Table 5.** ICO Bench Market Report 2018 -Top 10 ICOs by hard cap Raised

<b>ICO</b>	<b>Fund Raised</b>	<b>ROI</b>
TaTaTu	575.000.000	(-90.9%)
Dragon	320.000.000	(-98%)
Bankera	150.949.194	(-81.8%)
Neluns	136.000 000	NOT LISTED
tZERO	134 000 000	NOT LISTED
KitToken	117 447 182	NOT LISTED
U.CASH	113 656 873	NOT LISTED
Fusion	108 394 802	(-78.3%)
Envion	100 012 279	(-94.2%)
Karatgold Coin	100 000 000	(-63.9%)

### 6.3 ICO Regulation

Even Though ICO has many advantages like providing rapid access to capital for new ventures, there is also some drawback such as accountability and regulations.

How the ICO founders will be accountable for spending the money in the right way, how it can be measured that ICO is not just another scam. As it is valid for any new technology when cryptocurrencies and ICOs have emerged, laws and regulations were not enough to cover them.

In the dynamic economy, there is a need to diversify the approach that is taken in the market continually. The changes in economic factors have led the investors into devising new ways of creating business and raising capital for their ventures. This has seen the increasing need to embrace new forms of operation such as the Initial Coin Offerings. (ICO). This platform does not operate in a vacuum. It is subject to regulations by the respective countries and trading blocks. It is aimed at creating certainty and avoiding financial risks that are associated with plunging into a new mechanism without appropriate measures (Chohan, 2017).

According to research, substantial scam-artistry, phishing, Ponzi schemes, and other shenanigans - which cumulatively account for more than 10% of ICOs. (Chohan, 2017). This section, therefore, seeks to analyze the introduction of ICO, the possible criteria for regulations on the investors, the specific laws that have been put up to protect the investors and their consequent implications on the investor.

To begin with, the fluidity of ICO requires regulated mechanisms for its *operation because of the risk that the ventures come along with. Non-regulation and*

*lack of accountability are some of the significant challenges that are associated with the Initial Coin Offering (Chohan, 2017).*

Various criteria have been adopted in the formulation of laws relating to the fast capital generating venture. This is done by first analyzing the risk that it bears and other factors, and later, enable the laws that are meant to minimize the impact of the operation. In doing so, countries have been able to put reasonable restrictions on the activities of the investors, protect the citizens. It is noteworthy that there is no model law in this aspect, and therefore, countries are enacting laws depending on the needs of the particular environment.

Various countries have enacted regulations to cater for the developing sector of ICO. Germany, for example, has domesticated the ICO regulations. There are no separate regulations put in place but rather a pronouncement that the municipal laws such as the Banking Act, the Investment Act, and securities and Trading Act shall all regulate the operation of ICO. The application of such criterion is a proactive move that will not adversely distort the working of the market and therefore will have minimum effect on the economy while at the same time introducing a new commodity in the market. Other countries, such as Russia and Singapore, have formulated specific laws to regulate ICO operations (Williams, 2019). This comes as a supplementary achievement in law as the regulations define the workings of the society and more specifically, the investors.

The regulatory mechanisms put in place are aimed at protecting those who invest their money into the venture and the taxation of the proceeds therein. This is an essential aspect of the operation of the ICO as it provides certainty and builds public trust in the operation, making it a successful venture. The mechanisms protect the investors in that the economic laws regulate the input, and there is the security of the market. It is a highly volatile market that can bloom in no time or crash when least expected; this increases the urge to have mechanisms it clearly defined procedures on the recovery of the investment and security that an individual is accorded upon investment. The heavy reliance on technology in the operation of ICO markets also necessitates the use of regulatory mechanisms in the industry.

### **6.3.1 The attitude of countries against ICO**

The US Securities and SEC recommend investors to be cautious against scammers (mostly because of pump and dump schemas). The UK Financial Conduct

authority also suggested that investors be careful and point it out that there is no protection for the investors in case the project fails or not even start.

Australian regulators (ASIC) has published a guide regarding the legality of ICOs for many different cases. For example, if ICO token is the financial product, it has to obey the RG-234, which explains the regulation for the marketing of the financial products (ASIC, 2019).

Belarus has also become one of the most welcoming countries who has published a set of new regulations to encourage blockchain-based startups to operate in Belarus (Yafimava, 2019).

Even Though countries like UK and Australia try to regulate the ICOs and believe that as long as it is regulated and carefully investigated do not see the ICO as a threat, some countries have more strict regulations.

For example, in 2017, China has banned the ICO completely and ask the ICO founders to give the money back to investors (Choudhury, 2017). However, this approach seems like a temporary stage until China prepare the well-defined regulations for the ICO industry. It is important to point it out this ban only covers the ICO and does not cover the holding bitcoin or any other cryptocurrency.

More regulations and accountability are seen as a way to improve the quality of the ICO ecosystem. However, in some cases, the regulations might also restrict the investors from investing the ICO or decrease the motivation of the investors for the ICOs. In the past strict regulations done by China cause the price of Bitcoin and many alternative cryptocurrencies drops in a significant amount (Spaven, 2013).

### **6.3.2 Taxation**

One of the way governments earns revenue and able to conduct their business is by taxation. It is a legitimate expectation that the citizens shall contribute to the general tax systems; they are the primary beneficiary. Taxation system, however, needs not to be arbitrary. There should be a well-designed taxation mechanism codified regulation on taxation. The codified laws help the citizens plan on their finances and considerably contribute to the development of the country. It is estimated that over 7.5 Billion USD has been injected into ICO operation across the world. (Zetsche, Buckley, Arner, & FFhr, 2017). Absence of regulatory tax means may lead to loss of revenue for the government or misuse of capital.

The regulatory mechanism has various implications on the investors and other people involved in the operation of ICO. Just like other cryptocurrencies, ICO is aimed at its application as a virtual currency and secondly, its ability to finance projects. This possesses two crucial questions to their operation (Barsan, 2017). In order to decide which regulations will apply it is crucial to characterize the tokens (whether it is considered as a security, currency, etc. ) and taking the possible conflict with the laws into consideration Which will have any implications on the investors and other stakeholders in operation (Barsan, 2017).

For example, in Turkey, Turkish Tax authorities treat the cryptocurrencies as a commodity which cause taxation between 15% to 35% on the income gained from the cryptocurrency. Currently, there are no strict regulations for ICO, and it is allowed while it is believed more regulations will be made in the following years. However, the regulations are expected to be more tax-oriented rather than banning them.

As it can be seen from the regulations we have discussed, even though there is a room for improvement, it is also apparent the governments are also operating in a fast manner to catch up with the ever-changing economy and variations which comes with ICO market. The tax regulations put in place have an indirect effect on the investors in that they are not left out of the tax system. The investment capital is also regulated in various countries to avoid monopoly and abnormal market conditions. All these are aimed at establishing the stability of the ICO investment. The legal regulation has now taken a route such that it allows for autonomy in the market where the demand and supply of ICO determine the profits to be drawn. It is noteworthy that the investment industry when regulated, can be a highly profitable venture.

In conclusion, the legal question that arises with the reintroduction of the virtual currency is now settled in some countries. The jurisprudence developed in has stirred development, and its effects are felt cross-border. These regulations have increased the popularity of the currency and made it more accessible and make operations more straightforward.

## CHAPTER 7

### FACTOR ANALYSIS OF SURVEY DATA

#### 7.1 Research Methodology

This study aims at determining the factors which are essential in the decision-making process of the ICO investors. In order to extract these factors from an online survey, exploratory factor analysis is used. The self-administered online survey was carried out over the period of January to April 2019, resulting in 66 responses. Survey participants were found via niche Facebook groups and Bitcoin forums whose primary focus is crypto, ICO investment, and Bitcoin. While targeting the related participants, we asked only attendees who are aware of the ICO concept and has made ICO investment at least once before taking the survey.

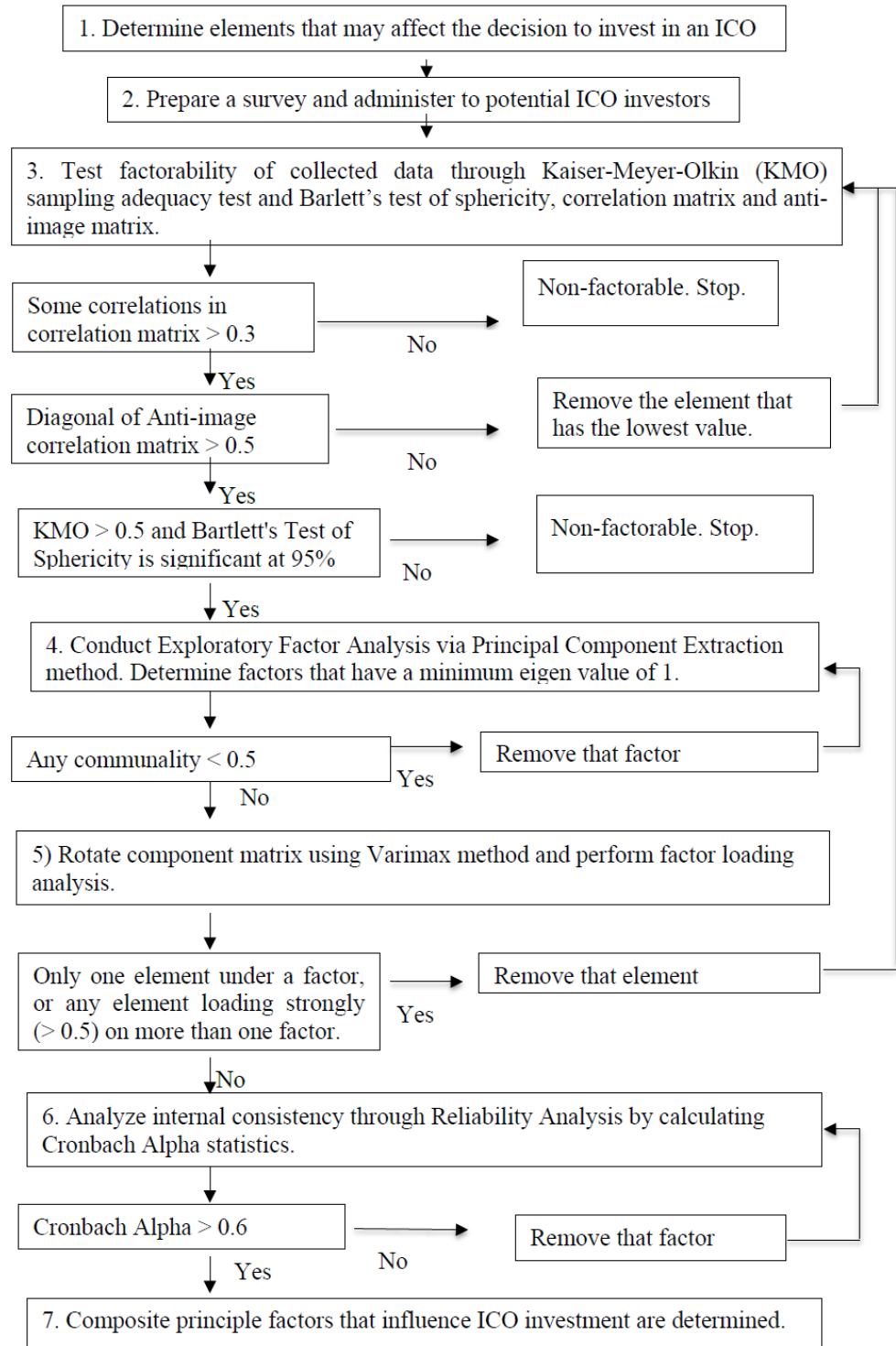
From the factors which have been discussed in previous sections, we have compiled a list of factors which might have an impact on the investment decision that you can see in Table 6.

In the survey, a five-point Likert scale was used with different wordings depending on the context. In order to analyze collected data, IBM SPSS Statistics 2.0 for Windows has been used. As depicted in Fig. 01 (adopted from Ozturkoglu et al., 2016), exploratory factor analysis (EFA) was conducted to analyze the collected data and extract significant and meaningful factors. The first two steps of the analysis consist of data collection steps according to predetermined elements. In the third step, correlations and anti-image correlations are scanned, and Kaiser-Meyer-Olkin (KMO) and Bartlett's Test statistics are examined. In the fourth step, in order to decide on the significant factors, factor extraction operations are performed. In the fifth step factor loading analysis has been performed using the Varimax method to rotate the component matrix. In the sixth step, reliability analysis has been conducted using Cronbach alpha statistics in order to confirm the consistency of the principal factors which were decided in the 5<sup>th</sup> step.

**Table 6.** Elements used in factor analysis

No	Element
E1	Facebook
E2	Twitter
E3	Instagram
E4	Linkedin
E5	Slack
E6	Telegram
E7	Reddit
E8	BitcoinForum
E9	Friends and relatives
E10	Advise from cryptocurrency gurus
E11	Number of listing websites for the ICO
E12	Score from the ICO listing website
E13	Review from the ICO listing website
E14	Visitor comments on the ICO listing website
E15	Crypto news website
E16	Finance and economy news website
E17	General news website
E18	Personal blogs
E19	Project idea
E20	Project sector
E21	Use value of the token
E22	Pump and dump opportunity
E23	Expected holding period
E24	Reputation of founders
E25	Experience of founders in the Blockchain
E26	Experience of founders in the sector of their ICO
E27	Advisors
E28	Development team
E29	Marketing team
E30	Sales team
E31	Partner companies
E32	Government regulation
E33	Roadmap
E34	Technical features
E35	Product-market fit
E36	Founder and team
E37	Token distribution
E38	Softcap/Hardcap

**Figure 1.** Principal Component Factor Analysis Process



## 7.2 Factor analysis

In order to perform a factor analysis, the adequacy of the correlation matrix of the collected sample has been confirmed. According to Tabachnick and Fidell, 2012, factor analysis is not significant if none of the correlation exceeds 0.3. On the other hand, a correlation matrix which consists of high correlation elements signals to significant and justified results. Our data set exhibits large correlation coefficients. In the anti-image matrix, which is the matrix of the negatives of the partial correlations among elements, the individual KMO Measure of Sampling Adequacy values for two of the elements were lower than 0.5. This shows that these elements appear to lack sufficient correlation with other elements; hence, they should be removed (Hair et al., 2013). Accordingly, elements with the lowest individual KMO values were removed one by one, starting with the lowest value. The elements removed from the analysis in this way are listed in Table 7, along with their KMO values.

**Table 7.** Removed elements at each round of factor analysis

	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6
Data KMO	0.772	0.778	0.814	0.805	0.804	0.812
Element	E23	E3	E15	E32	E17	E21
Individual KMO	0.342	0.413	NA	NA	NA	NA
Highest loading	NA	NA	0.457	0.474	0.461	0.445
Reason for removal	low individual KMO	low individual KMO	low loading	low loading	low loading	low loading on the rotated component matrix
	Round 7	Round 8	Round 9	Round 10	Round 11	Round 12
Data KMO	0.816	0.815	0.82	0.815	0.805	0.813
Element	E10	E18	E27	E6	E1	E19
Individual KMO	NA	NA	NA	NA	NA	NA
Highest loading	0.467	0.491	0.493	NA	NA	NA
Reason for removal	low loading	low loading	low loading	crossload on two factors	sole element under F8	crossload on two factors



As the analysis continued, 8 more elements were removed, one at a time starting with the lowest loading coefficient because their loading coefficients in the rotated component matrix were less than 0.5. Meanwhile, the general Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy test was checked to see if the data was likely to factor well, at each step.

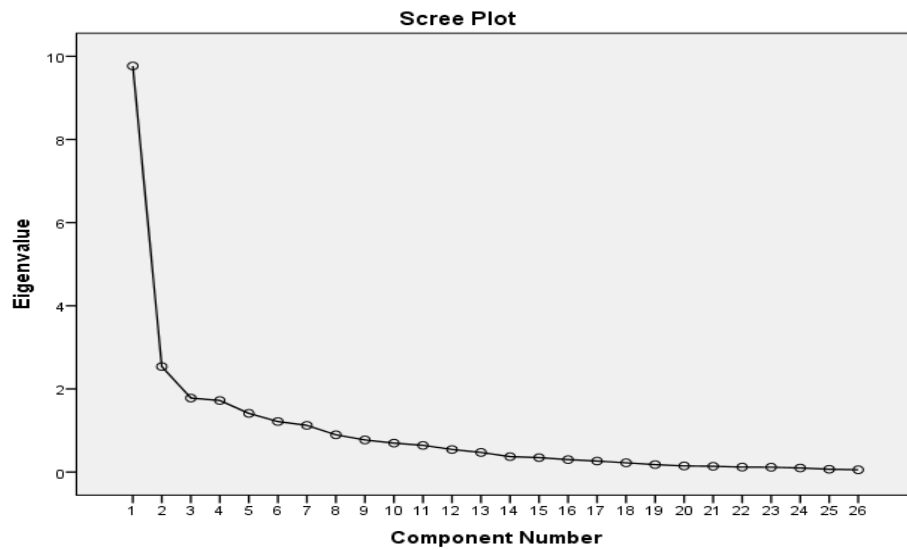
Finally, in the 13<sup>th</sup> round, after the removal of all elements with insufficient correlation to the rest of the data, using the remaining 26 elements, a KMO value of 0.81 is obtained, as presented in Table 8. This indicates that factor analysis is justified, and the number of underlying principle factors might indeed be fewer than 26. For the remaining 26 elements, Bartlett's test of sphericity has been analyzed in order to confirm the factorability of an inter-correlation matrix among factors (Bartlett, 1950)

The measurement results of both Bartlett's test of sphericity and the KMO, which is given in Table 8, prove that the inter-correlation matrix is factorable. The KMO measure is high enough and Bartlett's statistic is significant. (Tabachnick and Fidell, 2012).

**Table 8.** KMO and Bartlett's Test for the final round

KMO Measure of Sampling Adequacy	Bartlett's Test of Sphericity	
	Approx. Chi-Square	Sig.
0.81	1147.37	

**Figure 2.** Scree Plot Graphic



The resulting 7 factors explain 75.207% of the variation in the data as presented in Table 9 below. In scree plot graph it can also be seen that after seventh component line starts to flatten.

**Table 9.** Total Variance Explained

	Initial Eigenvalues			Initial Eigenvalues		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.767	37.566	37.566	14	0.371	1.426
2	2.537	9.759	47.325	15	0.348	1.338
3	1.779	6.844	54.169	16	0.299	1.151
4	1.721	6.619	60.788	17	0.264	1.016
5	1.412	5.429	66.217	18	0.222	0.853
6	1.215	4.672	70.889	19	0.180	0.692
7	1.123	4.318	<u>75.207</u>	20	0.147	0.564
8	0.895	3.443	78.651	21	0.139	0.533
9	0.773	2.973	81.624	22	0.120	0.462
10	0.696	2.678	84.302	23	0.116	0.445
11	0.642	2.469	86.771	24	0.098	0.378
12	0.543	2.087	88.859	25	0.068	0.260
13	0.471	1.812	90.671	26	0.055	0.212

According to Nunnally (1994). in the factor analysis factors whose alpha values between 0.7 and 0.9 are considered as reliable. So for the analysis results are shown in Table 11, factors 1 through 5 can be accepted as reliable since they are in the correct range. After F6 alpha values are starting to get lower than the ideal value.

**Table 10.** Internal consistency of the factors

	F1	F2	F3	F4	F5	F6	F7
Cronbach's $\alpha$	0.938	0.862	0.880	0.834	0.721	0.512	0.437

These result can be confirmed with the correlation matrix of the resulting factors. Table 12 proves that factors 1 through 5 are independent of each other.

**Table 11.** Correlation matrix of the resulting factors

	F1	F2	F3	F4	F5
F1	1.000	0.000	0.000	0.000	0.000
F2	0.000	1.000	0.000	0.000	0.000
F3	0.000	0.000	1.000	0.000	0.000
F4	0.000	0.000	0.000	1.000	0.000
F5	0.000	0.000	0.000	0.000	1.000

The resulting factors and their composition in terms of the original survey elements are presented in Table 12.

**Table 12.** Resulting factors and distribution of elements

Factor	Name	Included elements
F1	ICO Project idea and whitepaper	(E33) Roadmap (E34) Technical features (E35) Product-market fit (E36) Founder and team (E37) Token distribution (E38) Softcap/Hardcap
F2	Websites for finance news and ICO listings	(E11) Number of listing websites for the ICO (E12) Score from the ICO listing website (E13) Review from the ICO listing website (E14) Visitor comments on the ICO listing website (E16) Finance and economy news website
F3	ICO Project sector and founder	(E20) Project Sector (E24) The reputation of the Founders (E25) Experience of the founders in the ICO (E26) Experience of founders in the sector
F4	ICO Project team	(E28) Development Team

		(E29) Marketing Team
		(E30) Sales Team
		(E31) Partner Companies
F5	Social media	(E2) Twitter
		(E5) Slack
		(E7) Reddit

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### 7.3 Results of the analysis

The research shows that there are five principal factors which impact the ICO investment decision of the investor which are ICO project idea & whitepaper, websites for finance news and ICO listing, ICO Project sector and founder, ICO Project team and social media. Research also shows that the most significant factor for ICO investment is project idea and whitepapers factors, which are closely followed by websites for finance news and ICO listing. These factors almost have more impact than friends, relatives, and colleagues which signals that when it comes to investment decision reputable and niche websites, and original source of data like whitepaper is considered as more trustworthy. Thus, the social circle has a significantly lower impact than it is expected. On the other hand, social media platforms, and messaging services have still strong influence even though depending on the social media platform significant impact rate difference can be seen. For example, Facebook, which is considered as one of the most powerful social media platforms, has a significantly lower impact on investment decision compared to Twitter, Slack, and Reddit. Facebook is known with strict advertisement rule when it comes to promotion of the ICOs.

## CHAPTER 8

### CONCLUSION

ICO investment has become one of the latest investments and crowdfunding methods, which becomes even more popular because of the successful project examples and media coverage. Highly volatile market results in significant risks as much as great opportunities. In this research, we have identified 38 potential ICO investment signals under these factors. This model is first research which tries to measure the impact of a very comprehensive list of investment in order to find out the key factors.

In order to evaluate the impact the selected elements, we have conducted an online survey which targets the ICO investors all around the world and asks their opinion about each of the potential signals. Data collected has been analyzed and validated by using explanatory factor analysis. The factor analysis has exposed 5 underlying factors and 26 elements.

In the resulting model, remained factors were divided among five new principal factors, which is named as ICO Project idea and whitepaper, Websites for finance news and ICO listings, ICO Project sector and founder, ICO Project team, Social media.

Our analysis showed that the project idea and whitepaper is the most significant signals among all the potential signals. It seems like innovative project ideas combined with the whitepaper, which shows the plan and roadmap to make this idea turn into reality tend to convince investors to make an investment on ICO. Contrary to common belief, people do not prefer to directly trust their friends, colleagues, and relatives when it comes to investment decisions. However, interestingly they are influenced by the other opinions they got exposed in online messaging applications and social media platforms whose considerable part of it consists of anonymous users.

When we consider these factors, it can be seen that even though project funding and investing method are modernized and utilize the technology. factors which influence the investors is not significantly different from the traditional investment process. Investors want to believe in the idea and plan and trust to team and founder. However, there are few signals which are getting more importance with the ICO. And these are the online platforms that we can split into social media and

messaging service. Since ICO regulations are still at the beginning and significant part of a potential investor is using online services, reaching a big audience as much as spreading misinformation never become easier by using these channels.

In conclusion, we believe this research can bring a new perspective to both investor and ICO founders about the ICO signals. Analyzing these signals is vital in order to understand the mindset of investors. From the founder perspective, it proves that traditional factors like an idea, team, and whitepaper combined with innovative social media and community usage can provide a good advantage in attracting the investors. From the investor perspective, understanding these signals can help to spot next popular or potentially successful ICOs.



## BIBLIOGRAPHY

- Capital, A. (2017). Investor Warning: Arisebank ICO “strategic partnership” with Bitshares is a scam, Retrieved from <https://medium.com/@aenigmacapital/investor-warning-arisebank-ico-strategic-partnership-with-bitshares-is-a-scam-96b8b473a61d>.
- Ahlers, G. K. C., Cumming, D., Günther, C., Schweizer, D. (2015). Signaling in Equity Crowdfunding. *SSRN Electronic Journal*. doi:10.2139/ssrn.2161587.
- Argiro, J. (2018). ICO Insights Ep. 3: Industry Analysis by Hard Cap and Soft Cap. Retrieved from <https://blog.icoalert.com/ico-hard-soft-cap>.
- ASIC. (2019). Initial coin offerings and crypto-assets. Retrieved from <https://asic.gov.au/regulatory-resources/digital-transformation/initial-coin-offerings-and-crypto-assets/>.
- Barsan, I. M. (2017). Legal Challenges of Initial Coin Offerings ( ICO ). 54–65.
- Bartlett, M. S. (1950). Tests of Significance In Factor Analysis. *British Journal of Statistical Psychology*. 3(2), 77-85.  
<https://doi.org/10.1111/j.2044-8317.1950.tb00285.x>
- Bauerle, N. (n.d.). What Are the Applications and Use Cases of Blockchains? Retrieved from <https://www.coindesk.com/information/applications-use-cases-blockchains>.
- Bheemaiah, K., Collomb, A. (2018). Cryptoasset Valuation Identifying the variables of analysis. Retrieved from [www.linkedin.com/in/karybheemaiah/](http://www.linkedin.com/in/karybheemaiah/).
- Boreiko, D. and Sahdev, N. K. (2018). To ICO or not to ICO – Empirical analysis of Initial Coin Offerings and Token Sales. *SSRN Electronic Journal*.  
<https://doi.org/10.2139/ssrn.3209180>
- Brogan, C. (2018). Cryptocurrency manipulation schemes could be found and foiled by new algorithm. Retrieved from <https://techxplore.com/news/2018-12-cryptocurrency-schemes-foiled-algorithm.html>.
- Burns, L. & Moro, A. (2018). What Makes an ICO Successful? An Investigation of the Role of ICO Characteristics, Team Quality and Market Sentiment. *SSRN Electronic Journal*. <https://dx.doi.org/10.2139/ssrn.3256512>
- Buterin, V. (2015). A Next Generation Smart Contract & Decentralized Application Platform.
- Chan, H. (2019). Online interview with CEO of Block Chain Impact Hugo Jacques on blockchain advisory and investment. Blockchain News. Retrieved from

- <https://blockchain.news/Post?id=4391c249-55e3-45fb-a82f-4112c2e3449a>.
- Chevalier, L. (2019). The Top 100 Crypto and Blockchain Influencers. Retrieved from <https://medium.com/blockinfluence/the-top-100-crypto-and-blockchain-influencers-on-crypto-twitter-bfd33668e010>.
- Chohan, U. W. (2017). Initial Coin Offerings (ICOs): Risks, Regulation, and Accountability. <http://dx.doi.org/10.2139/ssrn.3080098>
- Choudhury, S. R. (2017). China Bans Companies from Raising Money Through Icos, Asks Local Regulators to Inspect 60 Major Platforms. . Retrieved from <https://www.cnbc.com/2017/09/04/chinese-icos-china-bans-fundraising-through-initial-coin-offerings-report-says.html>.
- Chuen, D. L. K. (2015). *Handbook of Digital Currency: Bitcoin, Innovation, Financial Instruments, and Big Data*. <https://doi.org/10.1016/C2014-0-01905-3> (Access Date: 05.05.2019)
- Clement, J. (2019). Number of e-mail users worldwide from 2017 to 2023 (in millions). Retrieved from <https://www.statista.com/statistics/255080/number-of-e-mail-users-worldwide/>.(Access Date: 04.05.2019)
- CoinMarketCap. (2019). Bitcoin (BTC) Price Chart. Retrieved from <https://coinmarketcap.com/currencies/bitcoin/>.
- de Jong, A., Roosenboom, P., & van der Kolk, T. (2018). What Determines Success in Initial Coin Offerings? *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3250035>
- Boreiko, D., Sahdev, N. (2018). To ICO or not to ICO – Empirical analysis of Initial Coin Offerings and Token Sales. <http://dx.doi.org/10.2139/ssrn.3209180>
- Frydrych, D., Bock, A. J., Kinder, T., Koeck, B. (2014). Exploring entrepreneurial legitimacy in reward-based crowdfunding. *Venture Capita* 16(3), 247-269. <https://doi.org/10.1080/13691066.2014.916512>
- Hair, J., Black, W., Babin, B., Anderson, R. (2013). *Multivariate Data Analysis* Pearson New International Edition.
- Hamrick, J., Rouhi, F., Mukherjee, A., Feder, A., Gandal, N., Moore, T., Vasek, M. (2019). The Economics of Cryptocurrency Pump and Dump Schemes. *SSRN Electronic Journal*, 1–19. <https://doi.org/10.2139/ssrn.3303365>
- Harbin, L. (2018). 70 Email Marketing Stats Every Marketer Should Know.



- Retrieved from <https://www.campaignmonitor.com/blog/email-marketing/2018/12/70-email-marketing-stats-you-need-to-know/>.
- Ibba, S., Pinna, A., Lunesu, M. I., Marchesi, M., & Tonelli, R. (2018). Initial Coin Offerings and Agile Practices. *Future Internet* 10, 103.  
<https://doi.org/10.3390/fi10110103>
- ICOBench. (2017). ICO Market Analysis 2018. Retrieved from [https://icobench.com/reports/ICO\\_Market\\_Analysis\\_2018.pdf](https://icobench.com/reports/ICO_Market_Analysis_2018.pdf).
- Innmind. (2017). Top 10 fastest ICOs in the history. Retrieved from <https://steemit.com/ico/@innmind/top-10-fastest-icos-in-the-hystory>.
- Investopedia. (2019). How Does a Pump and Dump Scam Work? Retrieved from <https://www.investopedia.com/ask/answers/05/061205.asp>.
- Henderson, J. E., Dhanaraj C. and Avagyan K., Perrinjaquet M. (2014). Strategic Partnership. Retrieved from <https://www.imd.org/research-knowledge/articles/strategic-partnerships/>.
- Kamps, J. & Kleinberg, B. (2018). To the Moon: Defining And Detecting Cryptocurrency Pump-and-Dumps. *Crime Science*, 7, 18.  
<https://doi.org/10.1186/s40163-018-0093-5>.
- Khatri, Y. (2018). FBI Arrests AriseBank CEO Over \$4 Million Crypto Fraud. Retrieved from <https://www.coindesk.com/fbi-arrests-arisebank-ceo-over-4-million-crypto-fraud>.
- Lewis, D. (2018). 12 Pillars of Successful ICO Marketing. Retrieved from <https://blog.icosuccess.com/strategy/ico-marketing-12-pillars/>.
- Li, T. and Wang, B. (2019). Cryptocurrency Pump-and-Dump Schemes. 1 (September 2018).
- Laurent L., (2018). Unsolved Mysteries The True Value of Bitcoin. Retrieved from <https://www.scribd.com/article/376828718/Unsolved-Mysteries>.
- Lisk. (n.d.). Whitepapers Explained. Retrieved from <https://lisk.io/academy/blockchain-business/icos/whitepapers-explained>.
- Mollick, E. (2014). After the Campaign : Outcomes of Crowdfunding. 1–18.  
<http://dx.doi.org/10.2139/ssrn.2376997>.
- Nakamoto, S. (2008). Bitcoin: A Peer-to-Peer Electronic Cash System.  
<https://bitcoin.org/bitcoin.pdf>.

Noble, B. (2018). High-Profile Strategic Partnerships Are the Path to ICO Legitimacy:

Expert Take. Retrieved from <https://cointelegraph.com/news/high-profile-strategic-partnerships-are-the-path-to-ico-legitimacy-expert-take>.

Nunnally, J. C. (1994). *Psychometric theory 3E*. Tata McGraw-Hill Education.

Ozturkoglu, O., Saygili, E. E., & Ozturkoglu, Y. (2016). A manufacturing-oriented model for evaluating the satisfaction of workers - Evidence from Turkey.

*International Journal of Industrial Ergonomics*. 54, 73-82.

<https://doi.org/10.1016/j.ergon.2016.05.002>

Patel, N. (2018). Which Marketing Channels are Worth Focusing On in 2018?

Retrieved from <https://neilpatel.com/blog/marketing-channels/>.

Pozzi, D. (2019). ICO Market 2018 vs 2017: Trends, Capitalization, Localization, Industries, Success Rate. Retrieved from <https://cointelegraph.com/news/ico-market-2018-vs-2017-trends-capitalization-localization-industries-success-rate>.

Purlev, P. (2018). ICO Hard Cap vs. Soft Cap – Easily understand the difference.

Retrieved April 5, 2019, from CoinStaker website:

<https://www.coinstaker.com/difference-ico-hard-cap-soft-cap/>.

Reif, V. (2017). User-Centred Design Methods, Time to Market and Minimum Viable Product in Startup Development Practices Title: User-Centred Design

Methods, Time to Market and Minimum Viable Product in Startup

Development Practices. (Master's Thesis) Aalto University, Finland.

Rhue, L., (2018). Trust is All You Need: An Empirical Exploration of Initial Coin Offerings (ICOs) and ICO Reputation Scores.

<http://dx.doi.org/10.2139/ssrn.3179723>

Robbie V.-A. (2016). View From The Boardroom - How Tesla uses Influencer Marketing to “go do the Voodoo that it do.” Retrieved from

<http://www.traackr.com/blog/view-boardroom-tesla-influencer-marketing-voo-doo>.

Rouse, M. (2007). Use Case Definition. Retrieved from

<https://searchsoftwarequality.techtarget.com/definition/use-case>.

Sahni, N. S., Wheeler S. C., Chintagunta, P. K., Goldfarb, A., Sudhir, K., Seiler, S.,

Yu, J. (2016). Personalization in Email Marketing: The Role of Non-

Informative Advertising Content \*.<http://dx.doi.org/10.2139/ssrn.2725251>.

- Serrano, N. (2018). The Story Behind Crypto's Most Popular Term: HODL. Retrieved from <https://medium.com/aave/the-story-behind-cryptos-most-popular-term-hodl-69983bb8c7fa>.
- Sockin, M., & Xiong, W. (2018). A Model of Cryptocurrencies.
- Spaven, E. (2013). Bitcoin Price Crashes as China Outlaws Bitcoin for Financial Institutions. Retrieved from <https://www.coindesk.com/price-crashes-china-outlaws-bitcoin-financial-institutions>.
- Suprunov, P. (2018). Technical Aspects and Tips on How to Launch the ICO. Retrieved from <https://medium.com/practical-blockchain/technical-aspects-and-tips-on-how-to-launch-the-ico-bed09da2975b>.
- Tabachnick, B. G. & Fidell, L. S. (2019). Using Multivariate Statistics Title: Using multivariate statistics. Retrieved from <https://lccn.loc.gov/2017040173>.
- Teutsch, J., Buterin, V., & Brown, C. (2017). Interactive coin offerings. Retrieved from <https://coinmarketcap.com/charts/>.
- Thaler, R. (1979). Toward a Positive Theory of Consumer Choice. *Journal of Economic Behavior and Organization*. 1, 39-60.
- Bjørøy T. V. (2017). The latest crypto PR craze: 'Airdropping' free coins into your wallet. Retrieved from <https://venturebeat.com/2017/09/06/the-latest-crypto-pr-craze-airdropping-free-coins-into-your-wallet/>.
- Weaver, J. (2018). Hard Cap vs Soft Cap and How to Set Them for your ICO. Retrieved from <https://www.tokenattractor.com/hard-cap-soft-cap-set-them-ico/>.
- Willett, J. (2012). MasterCoin Complete Specification vs. 1.0 (First Complete Specification). Retrieved from <https://sites.google.com/site/2ndbtcwpaper/>.
- Williams, R. (2019). ICO Regulations- Which are the Countries with Restrictions? Retrieved from <https://www.cryptonews.com/ico-regulations-which-are-the-countries-with-restrictions/16264/>.
- Wong, J. I. (2017). It's never been easier to launch an ICO—just outsource your whitepaper on Fiverr for \$100. Retrieved from <https://qz.com/1135177/the-ico-boom-means-whitepapers-can-now-be-outsourced-on-fiverr-for-100/>.
- Woods, S. (2016). #Sponsored: The Emergence of Influencer Marketing. Retrieved from [https://trace.tennessee.edu/utk\\_chanhonoproj/1976](https://trace.tennessee.edu/utk_chanhonoproj/1976).
- Yafimava, D. (2019). 2018, Latest ICO Laws and Regulations Worldwide in.

Retrieved from <https://openledger.info/insights/latest-ico-laws-and-regulations-worldwide-in-2018/#Belarus>.

Zetsche, D. A., Buckley, R. P., Arner, D. W., & Föhr, L. (2017). The ICO Gold Rush: It's a Scam, It's a Bubble, It's a Super Challenge for Regulators. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3072298>.

Zhao, W. (2018). Twitter Will Ban Cryptocurrency Ads in Two Weeks, Says Report. Retrieved from <https://www.coindesk.com/twitter-will-ban-cryptocurrency-ads-in-two-weeks-says-report>.

