



# INITIAL COIN OFFERINGS (ICO) AS A SOURCE OF FINANCE - A SYNTHESIS OF LITREATURE

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**Abstract :** This study has been undertaken to throw light on Initial Coin Offerings(ICO) as a source of finance for new ventures or startups. Initial Coin Offerings are defined as the “tokens” or “coins” being issued in the form of cryptocurrency by companies wanting to raise finance from the public. It is similar to an Initial Public Offering (IPO). The purpose of the paper is to synthesize the available literature on this topic so that there can be a better understanding of this unique source of finance. The paper is designed in such a way that it makes it easy for the readers and future researchers to get a better understanding of the topic in hand. Ten research papers have been selected from journals of international repute from the period of 2017 to 2021. This period is defined as the growth period for cryptocurrency, block-chain technology and initial Coin Offerings. Various similarities and points of uniqueness amongst these papers have been pointed out and managerial implications for using ICO as a source of finance have been discussed. Recommendations for future research have also been mentioned.

**Index Terms:** Initial Coin Offerings, ICOs, Block-chain technology, Cryptocurrency

## Introduction

As the world today progresses beyond imagination, so do the number of new business ventures popping up everyday. These ventures, popularly known as “startups” are on an all time rise and so is the demand for finance required by them. As the financial and business world gets saturated with the increasing number of stock options, or bonds or an all time high numbers of investments in mutual funds, new and innovative sources of finance are in much demand. One such source of finance is the ICO - Initial Coin Offering.

Initial Coin Offering(ICO) is the modern world’s response to the Initial Public Offering(IPO) offered by the traditional world. Initial Coin Offering refers to the process by which a new company wanting to raise finance can do so using a new coin, or an app or block-chain technology. ICO uses a “coin” or a “token” which is offered to the members of the public wanting to invest in the startup (Sharma and Zhu, 2020). Generally, this coin or token has some benefit attached to the product or service which is being sold by the new company. This concept has its origins in the rise of cryptocurrency or something formally termed as a Bitcoin which uses technology to give returns to the investors. ICOs are also structured on the basis of their demand and supply much like their traditional counterparts - shares.

Initial Coin offerings come with very little regulation by the governments of the countries which can be a challenge but at the same time, it is also the reason for increase in the number of companies opting for it as a source of finance. The investors hope for an increase in the value of their “tokens” and therefore, this will be considered as a return on their investment(Tiwari, Gepp and Kumar, 2019). A high level of skills are required to create and launch these ICOs as well as to understand them enough to invest in them. These

ICOs offer a great return but at the same time also come with huge risks of malpractices, frauds, lack of returns due to a lack of laws concerning them.

As there is a lack of awareness in the minds of the general public relating to the concept of Initial Coin Offerings (ICO) as a source of finance, the article here aims to present an analysis of the previously published research in this field. The purpose of this article is to analyse and synthesize the available literature on this topic. Ten articles have been selected after thorough deliberation so that there can be a better understanding of the concept in the minds of the reader. These articles are selected from the time frame of 2017 to 2021 i.e. the past five years which is when the rise of cryptocurrency and block-chain technology has shocked the world. From every year, two articles are selected so as to study their purpose, findings and also, their uniqueness and similarities to each other have been synthesized and presented below with the hope that there is a clear picture in the mind of the reader and the future investor.

### **Review of Published Literature and its Analysis**

**Shroff and Venkataraman (2017)** have carried out research in New Delhi, India to explain the concept of Initial Coin Offerings as a source of finance and to help lay down the regulatory framework for the use of cryptocurrency as a tool of raising funds from the public. The writers have made an attempt to create three classes of ICO tokens and then further, divide them into five sub-classes based on their uses and nature. They have said that there needs to be a conscious regulatory pattern for implementation and use of ICO as a tool for raising finance. The two regulatory approaches are - the first being strict laws for dealing in cryptocurrency, especially ICO tokens; and the second being incentives offered to start-ups which are raising finance through these unique and creative sources of finance. They have tried placing these guidelines within the purview of the Indian Legal System including the Income Tax Laws, Securities Regulations Laws and KYC Laws.

**Sontakke and Ghaisas (2017)** have published one of the first research papers in the field of cryptocurrencies and using Initial Coin Offerings (ICO) as a source of finance. They have explained cryptocurrency as a developing source of finance for new ventures and have limited their study to Bitcoin, Ethereum and Initial Coin Offerings. The writers have measured the values of cryptocurrencies on the basis of two major quantitative factors - the store value of these assets as well as their liquidity in the stock market. They have used market analysis techniques to identify the demand and supply parameters of these innovative sources of finance. They have explained that Initial Coin Offerings are the modern world's equivalent of an Initial Public Offering (IPO). Just like an IPO is launched by a company raising funds for the first time from the public; an ICO is issued to launch a new cryptocurrency to the public. It represents a financial stake in the company that issues it. ICO's use block-chain technology and are generally circulated using a software product or service.

**Lahajnar and Rozanec (2018)** have carried out research in the field of Initial Coin Offerings have designed an evaluation model for new startups to increase their funding through this unique and innovative source of finance. They have said that ICO's are a non-standardized and poorly regulated manner of collecting funds and therefore, there is no one model which can be applied to all the different companies using this tool to build their capital. The writers have given a model which involves high risk and high yield approach; and it has been designed in a systematic and transparent manner. In order to develop this model for using Initial Coin Offering as a source of finance, the researchers have identified various direct and indirect factors which affect it. The most important factors to be considered are - the use of qualitative methods to analyse the coins offered, the symbolic parameters of the cryptocurrency as well as the free and flexible use of assessment parameters.

**Wisniewska (2018)** has published a paper in the Copernican Journal of Finance and Accounting which highlights the use of Initial Coin Offerings as a source of finance along with giving an in-depth analysis of its opportunities and challenges. They have presented and discussed the argument that ICO is a relatively cheaper source of finance from the point of view of the company using it and therefore, there is a need to understand the advantages and disadvantages of it. The writer has also made comparisons of ICO with an IPO (Initial Public Offering) and said that while conventional businesses always prefer IPO's; the new and innovative ventures starting today are leaning towards using cryptocurrency and Initial Coin Offering as a source of financing their business needs. The paper has also discussed the case study of the first company to use ICO as a source of finance - Ethereum - and concluded that it shall remain a controversial source of finance due to there being more challenges than opportunities in this area. The most important challenges

being - an ambiguous legal status, high level of scams, high cost of execution and various other forms of abuse of this source of funding.

**Divyashree (2019)** has explained the process of Initial Coin Offering as the cryptocurrency world's response to an Initial Public Offering (IPO) in the traditional financial world. According to her findings, it is usually technical or computer companies which are looking forward to introduce or launch new software or apps are the ones launching an ICO. The Initial Coin Offerings have occasionally enjoyed great success but at the same time they suffer from more drawbacks than the usual traditional sources of finance. The major drawbacks being the lack of rules and regulations, non-accountability and a higher than usual rate of risk involved. The paper points out the most common risk factors involved in the launch of ICO's - deceitful crowd-sales, lack of regulation by budgetary experts, no actual monetary soundness, and lack of possibility of its usage by banks as a source of credit. If an investor is absolutely sure of the risks involved in an ICO, only then should they consider it as a viable avenue.

**Ryu, Baek and Kwon (2019)** have identified and evaluated the key elements for and of using Initial Coin Offering (ICO) as a source of finance in their paper published in The Journal of the Korea Contents Association. They have said that the companies which are planning on using ICO as a source of finance need to set up their priorities in order to help relevant stakeholders build their portfolios of investment. They have developed a hierarchy model and identified different factors which play a part in the development of an Initial Coin Offering for a new venture. They have also assigned weights to all the different identified factors which in order of their decreasing importance are - business, technology, contents, human resources, institutions, and the token itself. Also, different sub-elements have been identified - probability factor, estimated growth rate and laws and regulations. The findings of these factors will be of great importance to all the interested investors in cryptocurrency and block-chain technology.

**Rrustemi and Tuchschnid (2020)** has carried out research in the field of block-chain technology, cryptocurrency as well as initial coin offerings as a source of finance. He has also explained the Digital Ledger Technology (DLT) as a newer method of launching ICOs and the method of "tokenisation" is now the recent trend which companies and investors, both, are opting for. The paper points out the advantages of using ICO as a source of finance are greater in number, some of them being - paperless flow of currency, a border-less source of finance, less number of rules and regulations, digitized economies and a secure flow of financial information. A case study of LakeDiamond, a Switzerland based venture, has been discussed. The company was involved in the process of growing and processing diamonds in lieu of using them as tokens in an Initial Coin Offering. The company ended up failing but it did give rise to some new terms which now can be studied and developed further - Initial Exchange Offerings (IEO) and Securities Token Offerings (STO).

**Xuan, Zhu and Zhao (2020)** have studied Initial coin Offerings and their relation to the rise of social media apps in the recent years. Their paper, which was presented in the Pacific Asia Conference on Information Systems, highlighted the impact of social media on the launch of this source of finance. They have pointed out that even though ICO's suffer from more challenges than opportunities (lack of regulation, cases of fraud, lack of usage by banks or financial companies to name a few), the use of social media, if timed well, can have a positive impact on the launch of an ICO. The researchers have said that many companies have actively operated their social media accounts in such a manner that their prospective investors have been excited by the opportunity to invest in an ICO rather than being turned away by the large host of drawbacks that come along with them. They have carried out their research on more than 1700 potential ICO offers who actively managed their social media profiles and concluded that, a large social media presence along with a good timing of announcements on various social media applications have made a more than positive impact on the potential investors.

**Ahmad, Kowalewski and Pisany (2021)** have carried out an investigation relating to the determinants and the success factors of an Initial Coin Offering on data collected from more than 500 ICOs offered within the years of 2015 to 2018. They have described these years as the period of "boon" for ICOs where everyone wanted to launch these tokens for their funding requirements. This was before these companies realized the sheer number of drawbacks and challenges that came with the use of cryptocurrency and block-chain technology as a means of raising finance. They have also pointed out that the success of the Initial Coin Offering mostly depends upon the talent of the members and the teams involved, the recognition of early warning signs, and pre-sale offers given to investors. Also, that a friendly legal system is required in place



to support the growth of ICOs. The country's culture also has some impact on the launch and success of an Initial Coin Offering.

**Karpenko, Blokhina and Chebukhanova (2021)** have published a paper in the Journal of Risk and Financial Management which has explained the regulations and risks involved in the process of launching and using Initial Coin Offering as a source of finance. They have pointed out the most important regulations relating to ICOs and the use of block-chain technology as a source of finance in various countries. They have divided the different countries into three groups - the first one being countries which have developed norms and rules for the launch of ICOs; the second one being countries which relatively friendly to the launch of ICOs; and the third one being the countries which have a wait-and-watch attitude. They have also analyzed and categorized the different types of risks involved in the use of Initial Coin Offering as a source of finance - the first one being financial, the second being technical and the third being analytical. The main ways to reduce these risks are the development of stronger rules and stricter regulations in all the three categories of countries so that there is a far better understanding of this new source of finance.

### **Managerial Implications of Using Initial Coin Offerings as a Source of Finance**

The paper presents an analysis of ten research articles relating to the use of Initial Coin Offerings as a source of finance. The major points of study and discussion after an in-depth synthesis of research problems, findings and their uniqueness and similarities to each other are discussed below along with their implications on financial managers looking to raise finance for their new ventures.

- Lack of regulations and laws by the legal systems of the countries has dampened the spirit of using cryptocurrency, block-chain technology and Initial Coin Offerings as a source of finance.
- The use of tokens being offered in lieu of actual currency has led to the increase in the number of frauds and acts of misappropriation of money by companies raising finance through these sources.
- Banks have yet to use these “tokens” or “coins” as a legal and approved source of raising finance. They cannot offer credit in terms of cryptocurrency and therefore, this method of raising finance still remains a distant dream for the general public.
- There is a lack of understanding of these technical terms and technologies in the minds of the general public. Only those who have researched well in these areas can consider these sources of finance for their ventures. This also leads to a lack of investment by the laymen.
- The practice of using “tokens” or “coins” by companies raising finance has led to various companies thinking that anything and everything of value can be used as a source of finance. Case in point - the study of *LakeDiamond* mentioned above in the paper published by Kawasaki. The company started mining diamonds and using them to raise finance from the public by exchanging these precious stones with them. This is what led to the ultimate downfall of the company.
- High cost of execution of Initial Coin Offerings also need to be considered when using this source of finance. There is a need of clear understanding and training in the use of block-chain technology if a company wants to raise finance using these “tokens”. All of this adds up to the cost of raising money from the public.

**Table 1: Synthesis of available literature on Initial Coin Offerings as a source of finance to bring out their uniqueness and similarities**

S.No	Year	Author(s)	Purpose	Findings and Conclusion	Uniqueness	Similarity
1.	2017	Shroff and Venkataraman	<p>a. To explain the concept of Initial Coin Offerings.</p> <p>b. To help lay down the regulatory framework for the use of cryptocurrency.</p>	<p>a. Creation of three classes of ICO tokens and then further, division into five sub-classes based on their uses and nature.</p> <p>b. Identified the need for a conscious regulatory framework for implementation for ICOs.</p> <p>c. Efforts to place these regulations in the purview of the Indian Legal System.</p>	The paper has divided ICO tokens into three classes and five sub-classes based on their usage. No other paper analyzed in this article has done that.	Identified the need of developing a regulatory framework for the use of ICOs. Lahajnar and Rozanec, Divyashree and various other researchers mentioned here have said the same in their papers.
2.	2017	Sontakke and Ghaisas	<p>a. To explain cryptocurrency as a developing source of finance for new ventures.</p> <p>b. To measure the values of cryptocurrencies on the basis of two major quantitative factors - the store value of these assets as well as their liquidity in the stock market.</p> <p>c. To use market analysis techniques to identify the demand and supply parameters of these innovative sources of finance.</p>	<p>a. Explained that Initial Coin Offerings are the modern world's equivalent of an Initial Public Offering (IPO).</p> <p>b. Like an IPO is launched by a company raising funds for the first time from the public; an ICO is issued to launch a new cryptocurrency to the public.</p> <p>c. ICO's use block-chain technology and are generally circulated using a software product or service.</p>	They have studied Bitcoin, ICOs and Ethereum in their research. Identified market analysis methods to quantify the value of these block chain technologies.	Compared the use of ICOs to the use of IPOs in the world of traditional finance. Amongst the other researchers mentioned, Divyashree, Kawasaki, Ahmad, et. al have done the same.
3.	2018	Lahajnar and Rozanec	a. To design an evaluation model for new startups to increase their funding through this unique and innovative source of	a. Concluded that ICO's are a non-standardized and poorly regulated manner of collecting funds and therefore, there is no one model which can be applied	Open criticism of using ICOs as a source of finance and called it as a non standardized and poorly regulated method	Identified various direct and indirect factors which affect the use of Initial Coin Offerings.

			finance.  b. To identify various direct and indirect factors which affect Initial Coin Offerings.	to all.  b. They have given a model which involves high risk and high yield approach. It is based on the use of qualitative methods to analyse risks and returns.	of collecting funds.	
4.	2018	Wisniewska	a. To identify the use of Initial Coin Offerings as a source of finance along with giving an in-depth analysis of its opportunities and challenges.  b. To argue that ICOs are a relatively cheaper source of finance.	a. Have identified the challenges and opportunities of using ICOs as a source of finance.  b. Major challenges have been identified - n ambiguous legal status, high level of scams, high cost of execution and various other forms of abuse of this source of funding.	Has discussed the case study of the first company to use ICO as a source of finance - Ethereum - and concluded that it shall remain a controversial source of finance due to there being more challenges than opportunities in this area.	All the papers discussed here point out the many challenges being faced by the companies using ICO to gather finance.
5.	2019	Divyashree	a. To explain the process of Initial Coin Offering as the cryptocurrency world's response to an Initial Public Offering (IPO) in the traditional financial world.  b. To identify the advantages and disadvantages of using ICOs.	a. It is usually technical or computer companies which are looking forward to introduce or launch new software or apps are the ones launching an ICO.  b. Major drawbacks - the lack of rules and regulations, non-accountability and a higher than usual rate of risk involved.	One of the few to classify that it is usually technical or computer companies which are looking forward to introduce or launch new software or apps are the ones launching an ICO.	All the papers and research discussed here point out the many challenges as well as the opportunities being faced by the companies using ICO to gather finance.
6.	2019	Ryu, Baek and Kwon	a. To identify and evaluate the key elements for and of using Initial Coin Offering (ICO) as a source of finance.  b. To develop a hierarchy model and identified different factors which play a part in the	a. Development of a hierarchy model which assigns weights to the factors affecting the ICO.  b. In-depth analysis of all these elements and sub-elements including technology, content, human resources, growth rate of companies, etc.	One of the very research's based in Kora, it has assigned weights to all the different identified factors which in order of their decreasing importance are - business, technology, contents, human	Lack of similarity found in this paper and others studied and analyzed for the purpose of this article.

			development of an Initial Coin Offering		resources, institutions, and the token itself.	
7.	2020	Kawasaki	<p>a. To carry out research in the field of block-chain technology, cryptocurrency as well as initial coin offerings as a source of finance.</p> <p>b. To discuss the example of a case on LakeDiamond.</p>	<p>a. Pointed out the advantages of using ICO as a source of finance are greater in number, some of them being - paperless flow of currency, a border-less source of finance, less number of rules and regulations, digitized economies and a secure flow of financial information.</p> <p>b. Identification and development of two new terms - Initial Exchange Offerings (IEO) and Securities Token Offerings (STO).</p>	Case of LakeDiamond, a company dealing in using diamonds as token offered to raise finance. Also, highlights the lessons learned from the failure of the company.	The paper points out the advantages and disadvantages of using ICOs as a source of finance. Most papers discussed here do the same.
8.	2020	Xuan, Zhu and Zhao	<p>a. To study Initial coin Offerings and their relation to the rise of social media apps in the recent years.</p> <p>b. To identify the opportunities and challenges of using ICOs as a source of finance when using social media.</p>	<p>a. Highlighted the impact of social media on the launch of this source of finance.</p> <p>b. The use of social media, if timed well, can have a positive impact on the launch of an ICO.</p> <p>c. A large social media presence along with a good timing of announcements on various social media applications have made a more than positive impact.</p>	Studied the use and impact of social media applications in the development of ICOs. No other paper discussed here has done that.	Pointed out that the challenges of using ICOs are more than the opportunities it presents.
9.	2021	Ahmad, Kowalewski and Pisany	<p>a. To carry out an investigation relating to the determinants and the success factors of an Initial Coin Offering on data collected from more than 500 ICOs offered within the</p>	<p>a. They have identified the years of 2015 to 2018 as the years of boon for the development and use of ICOs.</p> <p>b. The success of the Initial Coin Offering mostly depends</p>	Identified the years of boon and great development of ICOs - 2015 to 2018. Identified that the efforts of teams in organizations are important.	Lack of similarities found amongst the researches studied and compared here.

			years of 2015 to 2018.	upon the talent of the members and the teams involved, the recognition of early warning signs, and pre-sale offers given to investors.		
10.	2021	Karpenko, Blokhina and Chebukhanov a	<p>a. To explain the regulations and risks involved in the process of launching and using Initial Coin Offering as a source of finance.</p> <p>b. To point out the most important regulations relating to ICOs and the use of block-chain technology as a source of finance in various countries.</p>	<p>a. They have divided the different countries using ICOs into three groups - the first which have developed norms and rules for the launch of ICOs; the second which are relatively friendly to the launch of ICOs; and the third which have a wait-and-watch attitude.</p> <p>b. The different types of risks involved have been categorized - the first one being financial, the second being technical and the third being analytical.</p>	Categorized the different countries which are developing and using ICOs as a source of finance. Also, identified and categorized the three kinds of risks associated with the use of ICOs.	Analysis of regulations and laws relating to ICOs. The same has been done by Shroff and Venkataraman, and various others.



## Conclusion and Recommendation for Further Research

The purpose of this paper is to highlight Initial Coin Offerings(ICO) as a unique and innovative source of finance. The paper presents an analysis and discussion of ten selected research papers published in various countries in journals of international repute. After thorough analysis of all papers presented, it can be concluded that Initial Coin Offerings as a source of finance is a dangerous route to take. There are more challenges than there are opportunities that come with it. Lack of serious regulations given by the governments of the countries have led to more risks and less results for companies looking for sources of financing their new ventures. While these “tokens” offer an interesting and efficient means of carrying a quick, paperless and border-less transaction; they also bring frauds and manipulated financial actions along with them.

The need of the hour is to for investors to be cautious while putting in their funds in Initial Coin Offerings. They need to have an in-depth understanding of the financial nature of these block-chain assets and a better legal system needs to be in place for their regulation. The companies issuing Initial Coin Offerings, on the other hand need to give out all the necessary information to the public before making an issue. They need exercise a cautious approach before giving out promotional offers to the unsuspecting public.

The paper has presented a synthesis of literature relating to Initial Coin Offerings as a source of finance by pointing out the similarities and uniqueness in the ten articles that have analyzed. There is a dire need for carrying out greater research in this area. Future researchers interested in this topic can carry out research to determine the level of understanding of the general public on this source of finance as there was a lack of information found relating to this. Surveys can be carried out to determine the awareness of the general public when it comes to cryptocurrency, block-chain technology and tokens being used as a means of finance. Further, research can be done on the after-effects of and on the companies which have actually raised finance using this method. There is shockingly a lack of research on this. *Just remember, if a means of financial investment sounds too good to be true, it probably is!*

## References

- Ahmad, M., Kowalewski, O. and Pisany, P. 2021. What determines initial coin offering success: a cross-country study. *Economics of Innovation and New Technology*, (1): 1 - 24.
- Divyashree, K. 2019. Initial Coin Offering (ICO) - A new paradigm. *International Journal of research and Analytical Reviews*, 6 (1) : 248 - 255.
- Karpenko, O., Blokhina, A. and Chebukhanova, L. 2021. The Initial Coin Offering (ICO) Process: Regulation and Risks. *Journal of Risk and Financial Management*, 14(12), 599 - 610.
- Lahajnar, S. and Rozanec, A. 2018. Initial Coin Offering (ICO) evaluation model. *Investment Management and Financial Innovations*, 4: 169 - 182.
- Rrustemi, J. and Tuchschnid, N. 2020. Fundraising Campaigns in a Digital Economy: Lessons from a Swiss Synthetic Diamond Venture's Initial Coin Offering (ICO). *Technology Innovation Management Review*, 10 (6): 53 - 63.
- Ryu, G., Baek, H. and Kwon, H. 2019. Evaluation of Key Elements and Priorities of Initial Coin Offering(ICO) for Integrating Block-chain Technology and Digital Content. *The Journal of the Korea Contents Association*, 19 (8): 194 - 214.
- Sharma, Z. and Zhu, Y. 2020. Platform building in initial coin offering market: Empirical evidence. *Pacific-Basin Finance Journal*, 61: 1 - 16.
- Shroff, N. and Venkataraman, P. 2017. Regulating ICO Tokens and Cryptocurrency in India. *Journal of Business Research*, 65 (3): 32-41.

Sontakke, KA. and Ghaisas, A. 2017. Cryptocurrencies: A Developing Asset Class. *International Journal of Business Insights & Transformation*, 10 (2) : 10-17.

Tiwari, M., Gepp, A. and Kumar, K. 2019. The future of raising finance - a new opportunity to commit fraud: a review of initial coin offering (ICOs) scams. *Crime, Law and Social Change*, 73: 417 - 441.

Wisniewska. A. 2018. The Initial Coin Offerings - challenges and Opportunities. *Copernican Journal of Finance and Accounting*, 7 (2): 99 - 110.

Xuan, M. Zhu, X. and Zhao, J. 2020. Impact of Social Media on Fundraising Success in Initial Coin Offering (ICO) : An Empirical Investigation. *PACIS 2020 Proceedings: Pacific Asia Conference on Information Systems (PACIS)* . Association for Information Systems, 2020.

