Alternative Fundraising: Success Factors for Blockchain-Based vs. Conventional Crowdfunding

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***Abstract*—Blockchain-based crowdfunding is an emerging economic phenomenon and a state-of-the-art strategy to finance ventures. It bears similarity to conventional crowdfunding, but has its own unique characteristics. Therefore the success factors that affect the outcome of traditional crowdfunding may have a different impact on blockchain-based crowdfunding. Despite that the number of blockchain-based crowdfunding campaigns has increased drastically in the past few years, there is a lack of good understanding of what the success factors are for them in comparison to the ones for conventional crowdfunding. Such understanding is crucial for companies to design their blockchain-based fundraising initiatives properly and facilitate potential investors to seek main signals and drivers of outstanding projects. Furthermore it could help regulators and market participants to understand how the existing regulatory framework applies to blockchain-based crowdfunding. Due to specific characteristics of blockchain-based crowdfunding, regulatory frameworks may require potential re-interpretation of requirements to allow an effective application of regulations. To fill this knowledge gaps, we have reviewed a set of relevant literature on success factors for conventional and blockchain-based crowdfunding. The result of this literature review sheds light on the directions for future research and development. The contribution of our work is a better understanding of the distinctions and similarities of blockchain-based crowdfunding compared to traditional crowdfunding.**

***Index Terms*—Crowdfunding, non-financial vs financial, Blockchain-based crowdfunding**

I. Introduction

Crowdfunding is an fundraising mechanism for new ventures and innovative projects. It is the practice of raising funds from a large number of people, often called backers, typically using online platforms such as Kickstarter or Republic. An interesting aspect of crowdfunding is that it gives non professional investors (retail investors) access to early stage investments. Before the raise of crowdfunding this investment segment was reserved to professional (accredited) investors. Therefore crowdfunding can be seen as a method to democratise the investment industry. Its a method to unchain the massive amount of capital hold by retail investors which in turn could boost the investment industry. Nevertheless regulators have implemented relatively restrictive regulations to protect retail investors. On the one hand regulators are trying to protect fragile market participants from high risk investments, on the other hand they are restricting their access to the potential high returns that those investments could generate. In the last few years, blockchain-based crowdfunding became an important economic phenomenon and in especially in 2017/18 an important strategy to finance ventures. Blockchain-based crowdfunding, represented by the surge of Initial Cryptoasset Offerings (ICOs) and more recently Security Token Offerings (STOs), becomes a new form of crowdfunding. Compared to first generation crowdfunding, blockchain-based crowdfunding is still highly unregulated. Unfortunately the lack of regulations has lead to the launch of many fraudulent blockchain-based crowdfunding campaigns. Some sources state that nearly 80 percent of projects do not exist or issuer/developers disappeared after the fundraising [1]. Projects launching blockchain-based crowdfunding offer to the public value units in the form of cryptographically secured digital tokens/coins stored on a distributed ledger. The tokens/coins could represent an utility, security, asset, commodity, currency or collectible. Another main distinction to other forms of early stage investments is the fast liquidity that those tokens/coins can gain on online secondary markets (centralized/decentralized exchanges).

In the beginning of 2018, more established companies are also starting to explore the new funding opportunity. However, there is a lack of understanding about the differences between traditional crowdfunding and blockchain-based crowdfunding campaigns, due to the nascent and complex nature of the phenomenon. Even though blockchain-based crowdfunding bears similarity to conventional crowdfunding, it has its own unique characteristics. As a result, the success factors that affect the outcome of traditional crowdfunding may not work for blockchain-based crowdfunding. There exist a lack of understanding of what the success factors for blockchain-based campaigns are in comparison to conventional crowdfunding factors. Such knowledge is crucial for understanding the main differences and similarities of the various crowdfunding models, can help to design successful blockchain-based fundrais-

ing campaigns properly and facilitate potential investors to consider specific evaluation factors.

In this paper, we report an analysis of an extensive literature review that we have conducted to reveal the success factors for both conventional and blockchain-based crowdfunding campaigns. The research question that guided the literature review is formulated as below:

RQ: What are the success factors for blockchain-based crowdfunding in comparison to conventional crowdfunding?

The outcome of the paper is a set of structured success factors for crowdfunding campaigns, compared and contrasted from the perspectives of crowdfunding types: conventional non-financial (reward- and donation-based), conventional financial (peer-to-peer lending and equity-based), and blockchain-based.

The remaining of the paper is organised as following. Section II reviews different types of crowdfunding reported in the literature. Section III structures and contrasts different success factors discovered in the literature. Based on the observations gathered in Section III, we outline in Section IV interesting studies that could be conducted to deepen our understanding of success factors for blockchain-based crowdfunding.

II. Different Types of Conventional and Blockchain-Based Crowdfunding

Crowdfunding can be categorized into two main categories. Non-financial crowdfunding represents the first category. In non-financial crowdfunding, entrepreneurs raise funds without offering any ownership (e.g. equity) or interest (e.g. debt) rights. In terms of traction the most important model in this category is reward-based crowdfunding.

Famous platforms such as Kickstarter and Indigogo are using this model. In the reward-based model, a project is offering a form of reward to their investors. In most cases, the campaign represents a pre-sale and the reward represents the product that will be realized using the funds raised through the campaign.

The other sub-model in this category is the donation-based model. This model is mostly used to collect funds for charitable causes and the donors are generally not expecting any reward. Nevertheless tax deductions offered in many countries for such donations could be seen as a kind of reward for the donors. Together reward and donation-based crowdfunding collected over 5 billion US dollars in 2017 [2].

Financial crowdfunding represents the second category. In financial crowdfunding, companies are offering securities or loans to investors. The two most important models in this space are peer-to-peer lending and equity crowdfunding.

The category is also known as 'regulation crowdfunding', since companies, investors and platforms have to follow strict regulations specific to their country of residence. The peer-to-peer lending model is by far the biggest crowdfunding model out there.

According to [2], in 2017, projects were able to raise 25 billion US dollars through this model. A big chunk compared to the 2.5 Billion raised through equity crowdfunding in the same period.

Blockchain-based crowdfunding campaigns share similarities to the traditional crowdfunding models. The regulatory environment with respect to this innovation nevertheless is still underdeveloped in most countries, and we are far away from a global standardization. It can be argued that there exist at least three different types of tokens that reflect their characteristics. Utility-type, payment-type or investment-type. Many tokens represent a hybrid form of investment-type, utility-type and payment-type crypto-assets [3]. On the one hand, utility tokens are intrinsic to a platform, protocol or network in the sense that you need to hold them to participate or access the products/services offered by the platform, protocol or network. Therefore a utility token offering could be seen as a kind of pre-sale of a consumption value. The offering shares similarities to a pre-sale of a product, for example in the form of a coupon. In this sense, a utility token sale shares similarities to the conventional reward-based crowdfunding model. On the other hand, there are currency tokens and security tokens in the blockchain-based fundrasing context. These tokens bear more similarities to traditional financial instruments. The offering of such tokens therefore share similarities to conventional financial crowdfunding models such as equity crowdfunding. Payment tokens are tokens that are similar to fiat money especially in terms of usability. Bitcoin, for example, could be seen as a payment token. Nevertheless the usability as a mainstream medium of exchange of bitcoin is not really feasible because of the high transaction costs. Thats why many investors and experts comment that bitcoin should be seen as a kind of digital gold used to store large amount of value and therefore more likely represents a kind of asset. Security tokens instead can represent a large variety of financial instruments. We would argue that there exist three main types of security token offerings. Equity Token Offerings (ETOs), Commodity Backed Security Token Offerings (CBSTOs) and Asset Backed Security Token Offerings (ABSTOs). We can divide security tokens into two main categories. Fully on-chain security tokens and a hybrid form that combines off-chain and on-chain features. The fully on-chain security tokens are tokens that exist only in the digital form saved on a distributed ledger. Those security tokens could be linked to the pay out of dividends or interests in the form of other security tokens, currency tokens or utility tokens for example. This kind of security tokens are located in a legal grey zone at the moment. Since they dont have any easily graspable interface to the 'real world', regulators will find it hard to regulate them properly in the near future. Those tokens are generally feasible for projects that are working on a fully digital project without no 'real world' linkage such as an open sourced computer game that is developed by an international community without no legal foundation for example. We have to see if governments implement regulations that enable companies to represent securities such as equity of private companies as fully on-chain security tokens. Because of the lack of this regulations in most countries some early stage companies active in the blockchain

space are trying to implement hybrid security token issuing models that link on chain tokens to off chain contracts.

The lack of proper regulation is the main reason why the hybrid security token model exist.

III. Comparison of Crowdfunding Success factors: Blockchain-Based vs. Conventional

We have uncovered a set of success factors that are considered contributing to crowdfunding campaigns, by reviewing the relevant literature following a snowballing approach. We organised the identified factors under two main categories: project related and campaign related. Within each main category, we further grouped the individual factors in a bottom-up manner to let sub-categories emerge. The project-related main category contains 9 sub-categories, whereas the campaign-related main category contains 4 sub-categories. Figure 1 provides an overview of these factors. (The full explanation of each individual success factor is reported in [4]).

In this paper, we re-examined these success factors from the perspective of different crowdfunding types, which allowed us to further highlight the knowledge gaps and interesting future research directions. In addition to main categories and sub-categories, Figure 2 categorized the success factors under non-financial, financial and blockchain-based crowdfunding types. Three different symbols - P*, P** and P*** - are used to highlight the relevance of a factor to the types of the crowdfunding campaigns that it may have effect on.

Comparing the three types of crowdfunding and the success factors encountered in literature we can observe that not all the factors have been studied in all categories and that some of the factors seem to be important only for one or two categories.

We found five factors that have been covered in literature with respect to all of the three crowdfunding types. These factors include industry, location, team size, social network presence and early investments. Industry seems to have an influence on the success of non-financial and financial crowdfunding. We imagine that depending on the industry, campaigns are able to attract more or less traction. In non-financial crowdfunding [5] find that projects belonging to certain categories on Kickstarter are more successful than others. This effect could be triggered because of market trends leading to an increase in the request of products belonging to certain categories. Another trigger could be that backers investing in certain categories (e.g. digital categories) are more tech affine than others. That could be the reason why Music, Film & Video and Games are the top categories on Kickstarter and categories such as Food, Theatre, Dance and Crafts are the bottom categories [6]. The same pattern has been observed in financial crowdfunding by [7]. The study conducted on US equity crowdfunding sites found that real estate projects are more successful than projects belonging to other categories. During bearish stock market periods, investors could diversify their portfolios with real estate investments to decrease their overall portfolio Beta. Another explanation could be that non-accredited investors participating in financial crowdfunding prefer investments in projects that seem to be more tangible. In the blockchain crowdfunding space on the other hand, [8] found that ICO valuations are not different across industries. This result could be a result of the crazy investment behaviour we observed over the last years in the blockchain crowdfunding market. It would be interesting to see if future studies come to the same finding. The location factor was found to have an influence on success in all the three crowdfunding categories. In the financial crowdfunding space, [9] found that Companies with a headquarter located near a big city seem to run more successful campaigns. They probably gain better results because those projects are able to attract more early backers and those backers have bigger and better connected social networks than backers living in smaller cities or rural areas. According to [9], in the non-financial crowdfunding space, companies located in the US seem to be more successful. Generally this finding could be observed because the US is the biggest crowdfunding market worldwide followed by Asia and Europe [2]. We also found several studies that highlight the importance of location in the blockchain crowdfunding space [10] [11]. In the blockchain space, this could be a result of favourable regulatory environments encountered in certain countries. Nevertheless we also found a controversial study conducted by [8] that states that location of the venture does not impact on ICO rating. In financial crowdfunding, [12] and [13] found that teams are more successful than solo Entrepreneurs. According to [14], a higher number of board members influence equity crowdfunding campaign success positively. The same result was found also for non-financial crowdfunding [15]. [8] and [11] found no evidence of team size influencing ICO success. [16] and [17] on the other hand found that team size is positively correlated with ICO success. Several studies focus on social networks seem to outline the influence of several factors combined to that social networks to crowdfunding success in financial, non-financial and blockchain-based crowdfunding [18] [9] [19] [20] [16]. Finally early investments have been covered by several authors in the crowdfunding space. [9] and [5] highlight its importance in the non-financial crowdfunding space. [21] and [22] found the same positive correlation in financial crowdfunding campaigns. Also in the blockchain crowdfunding space, [23] found a positive correlation.

We found only one factor that is considered contributing to both blockchain-based crowdfunding and conventional financial crowdfunding the share of retained equity or token factor. We found several authors in the traditional crowdfunding literature that point out the importance of equity retention in financial crowdfunding. [14], [20] and [13] found that retaining equity can be an effective signal to increase the likelihood of funding success. In the blockchain space, projects are generally not selling equity till now.

We can observe that in 2018 first projects were starting to sell equity such as security tokens. Nevertheless there exists no reliable analysis on that kind of token offering because of the lack of data in the first place. [23] and [17] found that retaining tokens influenced ICO success positively. This study used a data sample that includes nearly exclusively self-

Sub-Category	Success Factor	Relevant Literature
Project Related Factors		
Company characteristics	Industry	[5][8][12]
	Location	[24][10][12][13] [25][10][11]
	IPO exit strategy	[14][20]
Strong partners	Reputable investors	[12][34][13][29]
Strong early adopters	Corporate customers as early adopters	[12]
Project Innovativeness	Intellectual capital	[13][14][12]
Product stage	Product development stage	[12][13] [39]
Team composition	Team size (Nr. Board members, Nr. Advisors)	[12][13][15][8][17][16][14][11][26]
	Female founder	[15][9][20] [40]
Team experience	Previous founder experience	[33][34][12][5] [24][9]
	Well connected CEO	[17]
	Team educational background	[14]
Founder dedication	Loyal CEO	[31]
	Financial commitment	[39] [33][5]
Social Media traction	Social network presence	[18][20][16][17][5][19]
	Network Interactions updates and comments	[32][22][35][24] [33][34][41]
	Presence on Github	[8][17]
Campaign Related Factors		
Campaign design	Identity disclosure	[34] [42]
	Quality signals (videos, pitches, etc.)	[18][27] [44] [36][15] [45] [34][9] [30] [12]
	Share of retained equity / tokens	[14] [20] [13] [23] [17]
	Lower funding target	[17][23] [34] [9][18] [30] [5] [43][15][18][21] [19] [14] [20] [12] [13] [22]
	Shorter campaign duration	[18] [30] [5] [9][34][19][43][15] [22]
	Lower ticket size	[22]
	Well-differentiated reward levels	[30][9][15] [34] [33]
	Campaign addresses more than one country market	[33][34][12][5] [24][9]
	Tokens allow contributors to access a specific service (or to share profits)	[10]
	Using Ethereum	[8][17][11]
	Nr of tokens issued	[8][17]
	KYC/Pre-registration	[23]
	Presale	[17][23][10]
	ICO Bonus / discounts	[17][23][10]
	Accepting multiple currencies (digital and Fiat)	[23][17]
Campaign traction	Investors with large investments	[13][21][32]
	Early investments	[22][9][5][21] [25][30] [42][23]
	Number of early backers	[9][5][28]
	Average analyst rating	[23][11]
White paper quality	White paper availability	[16] [10]
	White paper content	[16][8][17]
	Multi-language white paper	[23]
Campaign transparency	Information transparency about the startup	[14][22] [42][7][33][34][20]
	Code source is available	[10][8]

Fig. 1. Crowdfunding Success Factors Reported in Literature (excerpted from [4])

declared utility token sales. Nevertheless many of those token sales represented security offerings in some countries, and some of the projects are persecuted by regulators around the globe. Lastly, we found 15 success factors that are exclusive to blockchain-based crowdfunding and were not covered previously by traditional crowdfunding literature. Not surprisingly, 9 of these success factors belong to the campaign related main category and are intrinsic to blockchain-based crowdfunding, including tokens allow contributors to access a specific service (or to share profits), Using Ethereum, Nr of tokens issued, ICO Bonus / discounts. However, the other 6 factors, i.e.KYC/Pre-registration, Presale, Accepting multiple currencies (digital and Fiat), well-connected CEO, loyal CEO, and (product) presence on Github, are not so specific to blockchain-based crowdfunding, but rather they can fit more crowdfunding models, and therefore it would be interesting to analyse their impact on traditional crowdfunding success too.

IV. Next Steps

In this paper, we presented the results of an extensive review of literature on the success factors for blockchain-based crowdfunding in comparison to more conventional crowdfunding.

Sub-Category	Succes Factor	Crowdfunding type		
		P=present in literature, NP= not present in literature		
		Non financial	Financial	Blockchain based
Project Related Factors				
Company characteristics	Industry	P***		
	Location	P***		
	IPO exit strategy	NP	P*	NP
Strong partners	Reputable investors	NP	P*	NP
Strong early adopters	Corporate customers as early adopters	NP	P*	NP
Project Innovativeness	Intellectual capital	NP	P*	NP
Product stage	Product development stage	NP	P*	NP
Team composition	Team size (Nr. Board members, Nr. Advisors)	P***		
	Female founder	P*	NP	NP
Team experience	Previous founder experience	P*	NP	NP
	Well connected CEO	NP	NP	P*
	Team educational background	NP	P*	NP
Founder dedication	Loyal CEO	NP	NP	P*
	Financial commitment	NP	P*	NP
Social Media traction	Social network presence	P***		
	Network Interactions updates and comments	P**		NP
	Presence on Github	NP	NP	P*
Campaign Related Factors				
Campaign design	Identity disclosure	P*	NP	NP
	Quality signals (videos, pitches, etc.)	P**		NP
	Share of retained equity / tokens	NP	P**	
	Lower funding target	P**		NP
	Shorter campaign duration	P**		NP
	Lower ticket size	NP	P*	NP
	Well-differentiated reward levels	p*	NP	NP
	Campaign addresses more than one country market	P*	NP	NP
	Tokens allow contributors to access a specific service (or to share profits)	NP	NP	P*
	Using Ethereum	NP	NP	P*
	Nr of tokens issued	NP	NP	P*
	KYC/Pre-registration	NP	NP	P*
	Presale	NP	NP	P*
	ICO Bonus / discounts	NP	NP	P*
	Accepting multiple currencies (digital and Fiat)	NP	NP	P*
Campaign traction	Investors with large investments	NP	P*	NP
	Early investments	P***		
	Number of early backers	P*	NP	NP
	Average analyst rating	NP	NP	P*
White paper quality	White paper availability	NP	NP	P*
	White paper content	NP	NP	P*
	Multi-language white paper	NP	NP	P*
Campaign transparency	Information transparency about the startup	NP	P*	NP
	Code source is available	NP	NP	P*

P* factor unique to a specific crowdfunding
P** factor common to two types of crowdfunding
P*** factor common to three types of crowdfunding

Fig. 2. Success Factors of Crowdfunding: Conventional vs. Blockchain-Based

The contribution of our work is a better understanding of the distinctive success factors for blockchain-based crowdfunding.

The study presented in this paper sheds light on the directions for future research. First of all, the amount of literature on blockchain-based crowdfunding is growing due to the prevail of the phenomenon. To draw a more comprehensive picture of the success factors for crowdfunding, especially for blockchain-based, a more systematic review of related literature is desired. Secondly, our literature review shows that, despite several common success factors shared with non-financial and financial crowdfunding, there are more distinctive factors that are relevant to blockchain-based crowdfunding only. These distinctive factors deserve closer inspection, taking into account the unique technical characteristics of blockchain and its profound economic and regulatory implications. Thirdly, empirical studies are needed to validate and quantify the effect of the success factors identified in the literature on the real successes of blockchain-based campaigns, and what are the good practices to enable the positive effects of these success factors. Last but not least, other analysis such as on the interfaces of major platforms, such as Kickstarter, Indigogo, Republic, etc., and of minor ones, can be conducted in order to see if there is correlation between the success rates of the platforms and their design.

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