The taxonomy of Crowdfunding
An actualized overview of the development of internet crowdfunding models

Fredrik Tillberg
Abstract

Crowdfunding challenges century long boundaries between the public, the industry and innovation. In that respect the phenomenon holds the potential to decentralize and democratize the way ventures are financed and realized. Crowdfunding has seen a lot of exiting developments during the last few years, partly because of new crowdfunding platforms emerging on the internet, and partly because of new ground-breaking technology being used for funding purposes. Meanwhile research has not quite caught up with the recent developments of different models for crowdfunding. This study’s aim is therefor to give an comprehensive overview of the different models of crowdfunding that are being utilized by crowdfunding platforms on the internet today. A deductive content analysis has been made of 67 current crowdfunding platforms. The platforms have been analysed in order to determine what model of crowdfunding they utilize. The result has, apart from partly confirming prior studies, also produced new exiting findings on what mechanisms constitute some of the crowdfunding models we see today. A new taxonomy of crowdfunding models is discussed and proposed. The conclusion is that the need for a updated taxonomy, like the one this study provides, was well needed in order to understand the field. One important finding is that blockchain technology has produced a new form of crowdfunding through cryptocurrency: Initial coin offering. That particular area will likely develop and continue to decentralize and democratise the economical human interaction when it comes to financing.

Keywords

Crowdfunding, crowdfunding platform, campaign owner, crowdfunder, crowdfunding model, taxonomy, donation-based, reward-based, equity-based, lending-based, royalty-based, hybrid model, subscription-based, bounty-based, blockchain technology, smart contracts, dApps, Initial coin offering, ICO
Acknowledgements

The three-year program Project Management within Publishing filled with peaks and troughs is coming to an end. I would like to thank all the teachers and fellow students at Malmo University, Media Technology. I would also like to thank my mentors, Thomas Pederson and Henriette Lucander for our valuable and inspiring discussions.

Thank you.
Innehållsförteckning

1 INTRODUCTION ............................................................................................................. 6
  1.1 AIM AND PURPOSE .................................................................................................. 7
    1.1.1 Research question ......................................................................................... 7
  1.2 BACKGROUND ........................................................................................................ 7
  1.3 TARGET AUDIENCE ............................................................................................ 8
  1.4 LIMITATIONS ........................................................................................................ 8

2 CROWDFUNDING AND PRIOR RESEARCH .................................................................. 9
  2.1 CROWDFUNDING PLATFORMS AND HOW THEY ARE CLASSIFIED IN TAxonomIES (CFPs) ................. 9
  2.2 THE CROWDFUNDING MODELS AND THEIR TWO SUPERORDINATE CATEGORIES .......................... 10
    2.2.1 Donation-based model .................................................................................. 11
    2.2.2 Reward-based model .................................................................................. 12
    2.2.3 Lending-based model .................................................................................. 12
    2.2.4 Equity-based model ..................................................................................... 13
    2.2.5 Royalty-based model ................................................................................... 13
    2.2.6 Hybrid models ............................................................................................. 13
    2.2.7 Subscription-based crowdfunding ............................................................... 14
  2.3 BLOCKCHAIN TECHNOLOGY .................................................................................. 14
    2.3.1 Smart contracts ............................................................................................. 15
    2.3.2 Initial coin offering, ICO ............................................................................. 16

3 METHOD ........................................................................................................................ 17
  3.1 CONTENT ANALYSIS ............................................................................................. 17
    3.1.1 Quantitative and qualitative content analysis .............................................. 17
    3.1.2 Inductive or deductive approach .................................................................... 17
    3.1.3 Abstraction and concept mapping ................................................................. 18
  3.2 THE DATA OF THIS STUDY ..................................................................................... 19
  3.3 THE METHOD OF THIS STUDY .............................................................................. 20
    3.3.1 Preparation phase ......................................................................................... 21
    3.3.2 Organizing phase ........................................................................................... 21
    3.3.3 Reporting phase ............................................................................................ 21
  3.4 SELECTION AND FAILURE .................................................................................... 22
  3.5 VALIDITY AND RELIABILITY .................................................................................. 23
  3.6 METHOD DISCUSSION ........................................................................................... 23

4 ANALYSIS ....................................................................................................................... 24
  4.1 THE CONTENT ANALYSIS OF PLATFORMS ............................................................ 24
    4.1.1 Donation-based platforms ............................................................................ 24
    4.1.2 Reward-based platforms ............................................................................. 25
    4.1.3 Lending-based platforms ............................................................................. 26
    4.1.4 Equity-based platforms ............................................................................... 29
    4.1.5 Hybrid platforms .......................................................................................... 30
    4.1.6 Subscription-based platform .......................................................................... 31
  4.2 THE COMPILED RESULT OF THE ANALYSIS .......................................................... 32
  4.3 THE "OTHERS" ......................................................................................................... 35
    4.3.1 Blockchain platforms .................................................................................... 35
    4.3.2 A bounty-based platform .............................................................................. 38
    4.3.3 Royalty-based platforms? .............................................................................. 40

5 DISCUSSION .................................................................................................................... 41
  5.1 PRIOR MODELS SPECIFIED .................................................................................... 41
    5.1.1 Lending-based crowdfunding ........................................................................ 41
    5.1.2 Hybrid ........................................................................................................... 42
    5.1.3 Subscription-based crowdfunding ................................................................. 43
5.1.4 The absence of Royalty-based platforms ................................................................. 43
5.2 NEW MODELS INTRODUCED .................................................................................. 44
ICO ............................................................................................................................... 44
5.2.1 Bounty-based crowdfunding ................................................................................... 44
5.3 THREE SUPERORDINATE CATEGORIES .................................................................. 45
5.4 A NEW TAXONOMY ............................................................................................... 46
6 CONCLUSION ............................................................................................................. 48
6.1 FUTURE POSSIBLE RESULT .................................................................................. 48
1 Introduction

Crowdfunding is conventionally defined as “The practice of funding a project or venture by raising money from a large number of people who each contribute a relatively small amount, typically via the Internet.” (“Definition of crowdfunding,” n.d., para. 1) One more detailed definition by crowdfunding research organization Massolution (2015) reads: “Crowdfunding refers to any kind of capital formation where both funding needs and funding purposes are communicated broadly, via an open call, in a forum where the call can be evaluated by a large group of individuals, the crowd, generally taking place on the Internet.” (p. 34) These two definitions constitute how the term crowdfunding is used in this study.

Over the past decade the crowdfunding phenomenon has grown dramatically. The playing field for crowdfunding has continuously changed and opened up new ways for ventures to finance their efforts. (Mollick, 2014) The technological evolution has taken it to the next level and crowdfunding is democratizing the access to funding worldwide (Ferreira & Pereira, 2018). All kinds of projects in all kinds of fields and markets are realized by drawing on relatively small contributions from a potentially very large number of individuals through platforms on the internet - without the need for classical financial intermediaries. (Mollick 2014) Crowdfunding is a phenomenon that substitutes traditional sources of finance such as banks, financial markets and governments for the individual. In that way crowdfunding challenges century long boundaries that have been set between industry, the financial sector and the public. (Méric, Maque & Brabet, 2016)

There are different models of crowdfunding that have emerged during the last decade. Several studies have created taxonomies of crowdfunding in order to understand these different models and the mechanisms behind the exchange between campaign owners and crowdfunders. A taxonomy in general is a system for naming and organizing things into groups that share similar qualities (“Definition of taxonomy,” n.d.). In the case of the existing taxonomies of crowdfunding produced in studies, they usually depict four to six different models of crowdfunding. Meanwhile the last few years have seen an interesting development in crowdfunding through the emergence of new platforms which have utilized new models for crowdfunding. These models are new because the mechanisms behind the exchange between campaign owner and crowdfunder are different from any of the previous models. The existing taxonomies are therefore no longer sufficient in representing what crowdfunding looks like today and there is a need for an updated taxonomy of the crowdfunding phenomenon.
1.1  Aim and purpose

The aim of this study is to gain a comprehensive overview of crowdfunding today and how internet crowdfunding platforms has branched and developed during recent years. In pursue of that aim this study will analyse the mechanisms behind the crowdfunding models used by crowdfunding platforms on the internet today. An updated taxonomy depicting the different models utilized by crowdfunding platforms will be discussed and proposed. In depicting how these models have evolved, the taxonomy can give a basis for further research on crowdfunding as well as indications on the direction of future development of crowdfunding.

1.1.1  Research question

What are the different models of crowdfunding that are used by crowdfunding platforms on the internet today? How can an actualized taxonomy of crowdfunding be constructed? What insights into the future development of crowdfunding can such a taxonomy provide?

1.2  Background

Prior research on crowdfunding has classified internet crowdfunding platforms in order to describe the different mechanisms at work behind the exchange between campaign owner and crowdfunder. This research includes International perspectives on crowdfunding by Méric et al. (2016), The crowdfunding industry report by Massolution (2015), The dynamics of crowdfunding: An exploratory study by Mollick (2014), Some Simple Economics of Crowdfunding by Agrawal, Catalini & Goldfarb (2014), Crowdfunding and the Energy Sector by Candelise (2015), Success Factors in a Reward and Equity Based Crowdfunding Campaign by Ferreira & Pereira (2018), Improving the role of equity crowdfunding in Europe's capital markets by Wilson, Testoni & Marco (2014), Subscription Based Crowdfunding by Wallis & Jenner (2015) and Subscription-based crowdfunding: An emerging alternative crowdfunding model for content creators by Nagai, Mano & Kim (2018).

Each of the studies above never presents more than six different models for crowdfunding. Most commonly they present four models for crowdfunding. But across those studies there are seven different models altogether. However, all seven models are never depicted in the same taxonomy. Also, the crowdfunding phenomena has changed and developed the last years, partly because of new platforms emerging and partly because of blockchain technology being used for
funding purposes. Prior taxonomies in above mentioned studies are therefore somewhat outdated and insufficient in describing the reality of crowdfunding today.

1.3 Target audience

This study is a basis for further research on crowdfunding and therefore directed towards future researchers in the field of economics and media technology. Furthermore the target audience are project initiators, funders and investors that have an interest in crowdfunding and seeks to orient themselves in order to determine which type of crowdfunding model is right for them.

1.4 Limitations

Only crowdfunding on internet platforms are subject to this study. However, is crowdfunding on social media platforms such as Facebook or Twitter excluded from this study since the campaigns occurring on these platforms are no different from the donation-based crowdfunding which dedicated crowdfunding platforms already use as a model. This study has also excluded platforms that don’t provide an open internet forum easily accessible to the public but instead provide services for accredited investors and companies.
2 Crowdfunding and prior research

This chapter begins with presenting the concept of a crowdfunding platform and how it is most commonly classified in prior research. After that, the prior research that aims to classify crowdfunding platforms is presented. This is followed by a definition of all the different crowdfunding models that have been found across that research. The research included is *International perspectives on crowdfunding* by Méric et al. (2016), *The crowdfunding industry report* by Massolution (2015), *The dynamics of crowdfunding: An exploratory study* by Mollick (2014), *Some Simple Economics of Crowdfunding* by Agrawal, Catalini & Goldfarb (2014), *Crowdfunding and the Energy Sector* by Candelise (2015), *Success Factors in a Reward and Equity Based Crowdfunding Campaign* by Ferreira & Pereira (2018), *Improving the role of equity crowdfunding in Europe’s capital markets* by Wilson, Testoni & Marco (2014), *Subscription Based Crowdfunding* by Wallis & Jenner (2015) and *Subscription-based crowdfunding: An emerging alternative crowdfunding model for content creators* by Nagai, Mano & Kim (2018).

The definitions of different crowdfunding models are usually consistent across the research, and a generic definition of each model have been summarized in this chapter. These generic definitions have all been used in the analysis of this study in order to identify which model is utilized by a specific crowdfunding platform.

In the last part of this chapter, blockchain technology, smart contracts and initial coin offerings (ICOs) is also explained because of the high relevance these three phenomena turned out to have on the result of this study.

2.1 Crowdfunding platforms and how they are classified in taxonomies (CFPs)

Crowdfunding platforms are internet-based platforms that help raise funds from crowdfunders for various campaigns that campaign owners have initiated. Crowdfunding platforms are mainly for-profit businesses that implement a revenue model based on a transaction fee for successful projects. The transaction fee is typically around 4-5% of the funding amount. The platforms incentive is therefore naturally to maximize the number and size of successful projects, which in part includes attracting a large community of funders and campaign owners. It also involves reducing frauds and facilitating an efficient matching between ideas and capital. (Agrawal, et al., 2014)
Crowdfunding platforms are normally classified on the basis of what type of return that can be expected by the funder (Méric, et al., 2016). This is the classification that is being used in this study. There are other taxonomies, though not as widely used, that are based on for example industry type of campaign owners, different incentives crowdfunders may have to support a project, or different geographic regions where the crowdfunding takes place. Those taxonomies might be valuable when studying a particular aspect of the crowdfunding phenomena, but they don’t address the economic reality behind the interaction between crowdfunders and campaign owners. Therefore, those taxonomies have shortcomings in that they do not give an overview of the mechanisms behind the exchange taking place, which is a utmost important aspect in order to understand how crowdfunding works. (Massolution 2015)

2.2 The crowdfunding models and their two superordinate categories

In International perspectives on crowdfunding – a collaboration by universities worldwide and directed towards academic researchers, practitioners and policy makers – four models of crowdfunding are presented: the donation-based model, the reward-based model, the lending-based model and the equity-based model of crowdfunding. (Méric, et al., 2016) The same division of crowdfunding into four models or types is made by Mollick (2014) and Ferreira & Pereira (2018). (See figure 1).

![Figure 1: Four models of crowdfunding. (Méric, et al., 2016; Mollick, 2014; Ferreira & Pereira, 2018)]

Different models of crowdfunding are in several studies defined as being either of a “non-financial return” form or a “financial return” form. The non-financial return form includes two models: the donation-based model and the reward-based model. The financial return form
The taxonomy of crowdfunding includes three models of crowdfunding: the lending-based model, the equity-based model and a royalty-based model (See figure 2). The difference between the two superordinate categories “non-financial return form” and “financial return form” is that the former does not provide financial return whereas the latter does yield return on investments for the crowdfunder. (Candelise, 2015; Massolution, 2015; Wilson, et al., 2014)

![Figure 2: Five models of crowdfunding divided into two superordinate categories (Candelise 2015; Massolution, 2015; Wilson, et. al., 2014)](image)

Massolutions *The crowdfunding industry report* also introduces a sixth model which the report doesn’t place under any of the two superordinate categories (See figure 3). The model is named a hybrid model and consists of a mix of the other models and therefore not as easily put under one category. (Massolution, 2015) The hybrid model has not been found to be mentioned in other studies when reviewing prior research.

![Figure 3: The hybrid model. (Massolution, 2015)](image)

### 2.2.1 Donation-based model

The donation-based crowdfunding model simply allows for the crowd to give money - or sometimes other resources - to support a philanthropic cause or venture. The crowdfunder gives because he/she wants to support the particular campaign and there is no reward or compensation for the crowdfunder. (Méric, et al., 2016)
2.2.2 Reward-based model

The reward-based model is when a funder makes a financial contribution with the expectation of some sort of reward in return. If the campaign is successful, the reward is commonly the product or service that was seeking finance from the start. Most crowdfunding platforms have followed this model up to recent days (Méric, et al., 2016).

2.2.3 Lending-based model

The lending-based model has in recent years expanded to the online world. With this model platforms offer a debt instrument that specifies the repayment terms between borrower and lender. The campaign owner is obligated to repay the loan. A loan which commonly consists of the principle and a fixed rate of interest (Massolution, 2015). Often the platforms that are based on the lending-based model offer loans to the poor and underprivileged. These platforms have the ability to offer loans to those who typically do not qualify for a bank loan. In addition, the lending-based model cuts out the middleman and connects borrowers with lenders directly. This concept subsequently leads to better rates for the borrowers as well as better returns for the lenders. (Méric, et al., 2016)

2.2.3.1 Peer-to-peer and Microfinance

Peer-to-peer lending is also known as social lending or crowdlending. Peer-to-peer lending means individuals are borrowing and lending money directly from each other without any intermediary. There are platforms that act as an interface and sets the rules for the exchange and connect borrowers and lenders directly. (Kagan, 2017) For risk reducing purposes, individual lenders most commonly contribute only to a small share of the total loan needed by the borrower. Microfinance is a term for granting financial services typically to low-income borrower who might not have access to or qualifies for a traditional bank loan. (Méric, et al., 2016) Since the mechanisms behind P2P lending and Microfinance are the same, this study - which focuses on the exchange between campaign owner and crowdfunder - has chosen to include microfinance as a peer-to-peer lending type.

2.2.3.2 Peer-to-business

Peer-to-business (P2B) lending is when individuals lend to established businesses. P2B lending works by matching funds from the public to most commonly property projects managed by
professional real estate investors and developers. The interest rate is established, based on the
risk and return profile of a particular loan. Usually strict lending criteria and due diligence
processes form the foundation of the P2B-platform. (Cave, 2017)

2.2.4 Equity-based model
The equity-based model enables investors to invest money in projects for a share in ownership.
This model has enabled the public possibility of investments of relatively small amounts of
money and it could be said to be equivalent to buying company stocks, but without any
intermediaries. Equity based crowdfunding is one of the fastest growing crowdfunding models.
(Massolution, 2015) There is an ability to raise large sums of money for a campaign which
makes this model beneficial for small businesses and start-ups. Legislation might make equity
crowdfunding difficult in different countries, but crowdfunding platforms have found ways to
get around the existing rules. Two methods are; the club model and the cooperative model. The
club model means that the crowdfunders through the platform become members of a private
“investment club”. Therefore, the offers from campaign owners are not considered to be made
directly to the public but to the investment club, and the transaction becomes completely legal.
The cooperative model is similar to the club model. The CFP creates a vehicle for individual
contributions to pool them into many single legal entities that in their turn invest in a project.
(Méric, et al., 2016)

2.2.5 Royalty-based model
A less common model of crowdfunding is the royalty-based model that gained a lot of traction
in 2014 and seemed to be on the uprise. Through this model funders receive a royalty interest
derived from the fundraising company. Depending on the contract the funder is guaranteed a
certain percentage or a fixed amount of the revenues accruing from royalties in the company’s
intellectual property. (Candelise, 2015)

2.2.6 Hybrid models
The hybrid model represents several different crowdfunding models on a single platform. This
means that a campaign owner can choose which model to use for a specific campaign. This can
also mean – if the platform offers that function – that the campaign owner is able to combine for
example equity-based with lending-based crowdfunding. In that case this gives the opportunity
to raise a portion of the capital through equity and another portion through debt. Many new market entrants offering the hybrid model emerged in 2013. (Massolution, 2105)

2.2.7 Subscription-based crowdfunding

Only two prior studies on crowdfunding where found where the subscription-based model is mentioned. They both use the platform Patreon as the point of reference arguing that it is the most iconic subscription-based platform and therefor a reasonable benchmark for the model. (Nagai, Mano & Kim, 2018; Wallis & Jenner, 2015). Patreon was founded in May 2013 and is oriented towards artists. The campaign owners launch campaigns on the platform to seek funding from the crowd in a subscription fashion. The campaign owners create reward tiers and the funder is charged for the specific tier either on a monthly basis or by content released. This content is completed work like videos, songs, illustrations, podcasts, paintings or software programs. The model is similar to the reward-based model in the sense that the funder receives a product. The subscription-based platforms also take a service fee from all pledges and a processing fee. In Patreon's case it is a 5% service fee from all pledges and the processing fee is about 5% as well. (Nagai, et al. 2018; Wallis & Jenner, 2015)

2.3 Blockchain technology

Blockchain technology is a decentralized database of records of all transactions or other digital events that are taking place among participating parties across a peer to peer network. The information is stored in "blocks" where once entered information can never be erased, changed or corrupted. Each transaction in the database must be verified (or denied) by over fifty percent of the participants in the network before it is stored in a block – this is a process which happens automatically and continuously. Each block contains a unique hash number (similar to id-number) plus the hash of the previous block and that is what connects it to the chain. This technology can be used for many important purposes that demand secure and transparent networking, but he most popular example of blockchain technology is the cryptocurrency Bitcoin. (Crosby, Pattanayak, Verma & Kalyanaraman, 2016) Applications can be built within a blockchain network. These blockchain based programs are called dApps (decentralized applications). (Wessling, Ehmke, Hesenius & Gruhn, 2018)
2.3.1 Smart contracts

Smart contracts are a concept originally introduced in 1994 by Nick Szabo. Simply put, a smart contract is a digital contract where the terms are automatically executed if they are met by the parties that entered into the contract. Smart contracts were suggested to be used instead of physical contracts in order to minimize the need for trusted intermediaries between parties since the self-enforcing contract itself could be viewed as filling the role of the trusted intermediary. (Christidis & Devetsikiotis, 2016)

Smart contracts can be stored on a blockchain with the purpose of self-executing certain processes. A blockchain network with a simple smart contract that would allow for example a crowdfunding with Bitcoins would work as follows: Person A, B and C participates in the network. Person A is the campaign owner that starts a crowdfunding campaign for a dApp (decentralized application) called “Heaven”. B and C are the crowdfunding ready to fund the project. Person A’s idea is that “Heaven” will be a dApp that will cost money as any commercial software when it is done, but it will also be possible to buy and use “Heaven” with a digital token called “Heavenly”.

Campaign owner A starts with deploying a smart contract on the network that will execute the exchange between parties that participate in the crowdfunding. The contract allows person A to deposit units of the token “Heavenly”. Person A then deploys a trade function in the smart contract that sends back 5 units of “Heavenly” for every 1 unit of Bitcoins the contract receives. Finally, person A deploys a withdraw function that allows person A to withdraw all the assets the contract holds. Now the smart contract is established and can be viewed by anyone on the network, which in this case is person B and C. Person A now sends 15 units of “Heavenly” to the smart contracts address via the blockchain and this transaction is recorded and verified in the blockchain. Person B, who own 3 Bitcoins sends 2 of them to the contract and automatically receives 10 units of “Heavenly”– a transaction which is also recorded and verified on the blockchain. After that, person C sends 1 Bitcoin to the smart contract and receives 5 units of “Heavenly”. Finally, person A decides to withdraw the funds of 3 Bitcoins that are now held in the smart contracts deposit and starts working on the dApp “Heaven”. All this has also been recorded and verified in the blockchain. (Christidis & Devetsikiotis, 2016)

The example above is a very simple form of a smart contract in a blockchain but serves as an introduction to how an ICO work.
2.3.2 Initial coin offering, ICO

When cryptocurrency became its own means to actually clear payments it became possible to raise money with cryptocurrency through Initial coin offerings (ICOs). (Adhami, Giudici & Martinazzi, 2018). In an ICO - also referred to as “crowd sale” or “token sale” - new ventures can raise capital through blockchain technology and smart contracts by issuing tokens and then sell them to a crowd of investors. These tokens are given a value either through becoming a “utility token” or a “security token”. The utility token provides access to the goods and services that the project will launch in the future if the funding is successful. They can also be used as a type of discount or premium access to these future goods and services. The security token is given value by functioning as an investment vehicle with the purpose of being a tradeable asset. Security tokens economic function could be viewed as similar to equities, bonds or derivatives. Regardless of the token type, most of them can actually be traded (even utility tokens) in a second market with either other cryptocurrencies or against traditional currencies. ICOs has enabled ventures and start-ups to raise funding directly - without any intermediaries. (Fisch, 2019)

Raising funds via ICOs is a recent phenomenon, with the first such offering having taken place in 2013. The number of ICOs and capital raised through ICOs have exploded since 2017. (Adhami, et al., 2018)

As of today, ICOs are due to their highly technological nature only applicable to certain high-tech firms. However, as the adoption of the blockchain technology increases, ICOs will certainly provide funding opportunities for a broader industry in the future. (Fisch, 2019)
3 Method

In the first part of this chapter the theoretical framework and methodology applied when analysing and compiling the material of this study is presented. A deductive content analysis has been used and the outcome of this analysis has been a concept map – a taxonomy of crowdfunding - which serves as a basis for discussion in relation to earlier categories and taxonomies. The steps taken in this study - in accordance with the chosen method - are accounted for. Finally, this study’s method is discussed for its strengths and weaknesses.

3.1 Content analysis

Content analysis is a method that may be used with both qualitative and quantitative data and in an inductive or deductive way. The aim of content analysis is to build a model to describe the studied phenomenon in a conceptual form. (Elo & Kyngäs, 2008)

3.1.1 Quantitative and qualitative content analysis

A quantitative content analysis should produce the same result when two researchers apply the same method and processing steps to the data. In that case the result entirely depends on the data and the method, not the researcher. Qualitative content analysis is based on accepted theory of investigation or knowledge and the result depends on the data, method but also the interpretation of the researcher. (Poynter, 2010)

A content analysis is not always a clear cut between qualitative and quantitative methodologies. It is for example possible to analyse data qualitatively and at the same time quantify the same data. (Vaismoradi, Turunen & Bondas, 2013) That is what has been made in this study. Even though the analysis of crowdfunding platforms has been qualitative it has followed clear definitions on what to look for.

3.1.2 Inductive or deductive approach

Apart from using either qualitative or quantitative data, content analysis may be used in an inductive or deductive way. If the former knowledge on the subject of study is not enough or fragmented, an inductive approach is recommended. Deductive content analysis is used when the analysis is operationalized on the basis of previous knowledge and the purpose of the study is testing previous theories or models. (Vaismoradi, et al., 2013) Regardless of an inductive or deductive approach, content analysis can be structured into three phases; preparation, organizing
and reporting. The preparation phase is similar to both the inductive and deductive approach, but the organizing phase and reporting phase differs (See figure 4). (Elo & Kyngäs, 2008)

3.1.3 Abstraction and concept mapping

Abstraction signify formulating a general description of the research topic through generating categories. The abstraction process continues as far as possible to find subordinate categories (See figure 5). (Elo & Kyngäs, 2008)
Figure 5: The abstraction process involves finding as many subcategories as possible. (Elo & Kyngäs, 2008)

For presenting data figures are useful and graphical representations can take on many forms and are only limited by the author. One common qualitatively oriented display method is concept mapping which shows the relationships among concepts. These concepts are usually represented as boxes or circles that are connected to each other with for example arrows. (Elo & Kyngäs, 2008) This is how the Taxonomy of this study has been put together.

3.2 The data of this study

This study strived to include as many crowdfunding platforms as possible. The two most extensive and comprehensive listings of CFPs and crowdfunding projects found online at the time of the study were two separate list published on Wikipedia. The first list is a Wikipedia "category page" where all Wikipedia pages linked to the category of “crowdfunding platforms” are shown. (“Category:Crowdfunding platforms,” 2017) This is a function Wikipedia offers the creator/creators of a Wikipedia page which allows for categorization of a page. With this in mind there are probably several Wikipedia pages of CFPs that have not been categorized under “Crowdfunding platforms” by their creators. Still many pages have been, and the list in question provided 82 crowdfunding platforms from all over the world. Of those 82 platforms, 22 where not included in this study. The reason for this is (1) that seven of the links where defunct (2) one platform was on the verge of dissolving and (3) fifteen platforms wouldn’t fit into this study’s definition of crowdfunding as "…communicated broadly, via an open call, in a forum where the call can be evaluated by a large group of individuals, the crowd, generally taking place on the Internet.” (Massolution, 2015, p. 34) These fifteen excluded platform’s webpages most commonly offered some sort of platform or software program for accredited investors. If these
fourteen platforms still would have been included in the analysis of this study, they most likely would have fitted into the criteria for equity-based crowdfunding and lending-based crowdfunding.

The second list used in this study is a Wikipedia page under the category of “Crowdfunded projects” called “List of highest-funded crowdfunding projects”. The list shows 174 of the highest funded crowdfunding campaigns and the platforms these campaigns where executed on. (“List of highest-funded crowdfunding,” 2019) Most of the platforms on this list were represented on the first list but additional eight CFPs were extracted and added to the study. Some of the projects on the second list turned out to have had their respective campaign executed not on a platform per se, but on their webpage, and was therefore not included in the study.

3.3 The method of this study

The study followed a deductive approach because of its base in prior research (See figure 6). There were three phases of the study that are described below.
3.3.1 Preparation phase

In the preparation phase data was gathered by collecting as many url:s for crowdfunding platforms as possible. Then all possible categories of crowdfunding models were gathered from prior research on crowdfunding. The research on crowdfunding was found through Libsearch and Google scholar.

3.3.2 Organizing phase

In the organizing phase the definitions of crowdfunding models across different studies and reports was summarized into representable generic definitions of the models (presented in the theory chapter of this study). Then a deductive qualitative content analysis of the crowdfunding platforms was carried out in order to attempt to categorize each platform to the correct model in accordance with the model’s generic definition. The result was put in a table and two different diagrams to get an overview of the data analysed. The platforms that did not meet the criteria of any of the defined models were separately analysed to see if they at all could be considered crowdfunding according to this study’s definition. If they met the criteria for crowdfunding an analysis of what they constituted and how they could be defined was made. The term “ICO” turned out to have been subject to earlier research but not included in the crowdfunding research, therefor theory on ICOs and the technology behind it was added in the theory chapter.

3.3.3 Reporting phase

The new models for crowdfunding found in this study were reported and discussed through a taxonomy showing the proposed exchange between campaign owner. The two superordinate categories of crowdfunding in prior research were discussed and questioned and instead three superordinate categories were proposed. The updated taxonomy on crowdfunding was naturally based on the result of the analysis of all 67 crowdfunding platforms in this study. The way it was constructed was thru a concept mapping. Arrows was used to show the relationship between different models. Colours was used to differentiate the three new superordinate categories of models from each other as well as showing how certain crowdfunding models can actually belong to two categories. This concept mapping of a taxonomy was done in accordance with the theory on abstraction and concept mapping.
3.4 Selection and failure

This study wanted a large selection of crowdfunding platforms in order to make the analysis of which crowdfunding models are being used today as correct as possible. The most extensive lists found online where the two lists on Wikipedia. It is likely to assume that the platforms listed on those two webpages are still only a portion of all the crowdfunding platforms that exists today. Therefore it is likely that there is some failure in this study since the data don’t represent all crowdfunding platforms online. A more extensive study would be required to give a more accurate picture. However, the platforms used in this study are probably among the largest and most widely known. The Wikipedia website may not be listing all existing platforms but the mechanisms behind the website with its open editable content makes it a magnet for information on such things as internet websites and platforms.

With regards to selection of theory and related work it is important to note that a substantial portion of information in this study has come from the The Crowdfunding Industry Report by the organization Massolution (2015). The organization describes itself as a "...research and advisory firm that is pioneering the use of crowd-solutions in government, institutions and in enterprises." (Massolution, 2015, p. 33) Their latest report from 2015 is a comprehensive report that covers a lot of areas when it comes to crowdfunding. The method used by the report has mainly been an industry survey conducted via the website crowdsourcing.org that received responses from 463 active crowdfunding platforms worldwide. (Massolution, 2015) The report however is not a peer-reviewed report produced by any university. Still The Crowdfunding Industry Report is widely cited in academic research on crowdfunding. Research that cites it includes International perspectives on crowdfunding by Méric et al. (2016), The dynamics of crowdfunding: An exploratory study by Mollick (2014), Crowdfunding and the Energy Sector by Candelise (2015) and Improving the role of equity crowdfunding in Europe’s capital markets by Wilson, Testoni & Marco (2014). Since it is cited widely in prior research this study has found it relevant to include it as part of that prior research. However, this study never entirely leans itself on the report without back-up from other academic studies. Although an exception to that is when it comes to the "hybrid" model of crowdfunding. The Crowdfunding Industry Report is the only found study that mentions the “hybrid” model. This study wanted to test that model, as well as every other crowdfunding model found across prior research, in the analysis of crowdfunding platforms.

No research dating back before 2014 have been included in this study in order to include as up-to-date research as possible on crowdfunding platforms.
3.5 **Validity and reliability**

This study aims to achieve high validity and reliability. A wide set of theory on crowdfunding and its different models was the basis for a valid and reliable analysis. The study has aimed to find as many different models and taxonomies for crowdfunding as possible. In some studies, certain models where mentioned that where not mentioned in other studies and vice versa. None of the taxonomies found included every single model described across all different studies gathered. When all models found in prior studies where collected, this study had a set of models that was therefore more diverse than any prior taxonomy. It was also important, for reliability-reasons, to extract a suitable generic definition of all crowdfunding models across prior studies. Although the definitions where similar across studies, some definitions where viewed as more precise and therefore included by this study. This could be argued to have been somewhat arbitrary choices made by this study, but the aim has been at making those choices as careful as possible.

3.6 **Method discussion**

There are advantages of applying a content analysis, but there are also some limitations to the method and important weaknesses that should be highlighted. One weakness is that qualitative content analysis is a very flexible method, which means that there are no rigid systemic rules that show the precise way of analysing data. (Elo, Kaarinen, Kanste, Pölkki, Utriainen & Kyngäs, 2014). As regards, this study has firstly strived to use a somewhat structuralized model for content analysis based on Els & Kyngäs (2008) visual model (See figure 4 & 6). Secondly this study has strived to give a step by step account of its method for the sake of transparency.

Another weakness with specifically adopting a deductive approach, and consequently using prior research with its already stipulated categories as a basis, is that the researcher approaches the data with a strong bias. This bias can lead the researcher to be more likely to find data and evidence that support the theory. (Hsieh & Shannon, 2005) Because of this study’s ambition to provide a critical discussion of old taxonomies through an updated one, the prior research was not viewed upon as a fixed description of the reality of crowdfunding today.
4 Analysis

This chapter presents this study’s analysis. The first part of the chapter offers exemplifications of the CFPs that constituted the data and how they have been analysed. The second part consists of a compiled result of the analysis of all platforms and is shown in tables and diagrams. The third part consists of an analysis of the platforms that could not be categorized in accordance with prior research taxonomies and definitions of crowdfunding models.

4.1 The content analysis of platforms

Below are examples on CFPs in this study and how they have been analysed and categorized under a particular crowdfunding model.

4.1.1 Donation-based platforms

Figure 7: GoFundMe. A campaign for the rebuilding of a school in India. (“Help rebuild a school,” 2019)

GoFundMe is a crowdfunding platform that utilizes a typical donation-based model (https://www.gofundme.com). As observed in the top right corner of this webpage, anyone can donate (See figure 7). There is no reward or compensation for the giver. (“Help rebuild a school,” 2019)
A deeper content analysis of other campaigns on the platform revealed that a small part of the campaign-owners in their information-text of the campaign sometimes offered some sort of symbolic reward. However, the platform itself does not provide a reward-function and the platform is dominantly used for philanthropic gestures. (https://www.gofundme.com)

### 4.1.2 Reward-based platforms

![Ulule](https://www.ulule.com)

**Figure 8:** Ulule. A campaign for a keyboard for digital writing of music. (“ODLA – Music you can touch,” 2019)

**Figure 9:** Examples of the reward-levels for the campaign “Odla”. (“ODLA – Music you can touch,” 2019)

Ulule is a crowdfunding platform that utilizes a typical reward-based model. The funder makes a financial contribution with the expectation of a reward in return if the campaign is successful. (https://www.ulule.com)
As shown in the bottom right corner of the example webpage of a crowdfunding campaign for “Odla” – a keyboard for digital writing of music, there is a reward function (See figure 8). There are several levels of rewards ranging from a “thank you” on Facebook and blog of “Odla” to the actual product for a discounted price. The reward is somewhat equivalent to the amount you pay (See figure 9). (“ODLA – Music you can touch,” 2019)

4.1.3 Lending-based platforms

In the analysis of lending-based platforms one key difference was found between the platforms and their mechanisms behind the exchange between campaign owner and crowdfunder. Some platforms offered crowdfunding of loans to either businesses or individuals with interest return. (https://tessin.com; https://www.twino.eu) One platform offered loans to individuals without any interest return to the funder. (https://www.kiva.org) In other words this platform had a more philanthropic approach that was similar to charity.

4.1.3.1 Lending-based with no interest

Figure 10: Kiva. A lending-based platform where the crowdfunder lend money to the borrower without interest return. (“Ibrahim – Uganda,” 2019)
Kiva is one platform which have a charity-character where the funder won’t get any interest on their loan (See figure 10). (https://www.kiva.org) It is notable that the borrower, Ibrahim, in this case still pay interest to Kivas field partners (See figure 11a). (“Ibrahim – Uganda,” 2019)
According to Kiva this interest is at an reasonable interest rate, and sometimes borrowers pay no interest at all (See figure 11b). (“How Kiva works,” n.d.) Since this study is based on a taxonomy determined by the proposed exchange between campaign owner and crowdfunder, the type of lending-based crowdfunding Kiva offers must be separated from other forms of lending-based crowdfunding that do offer interest to the crowdfunder. Finally, it is important to note that this platform was used for philanthropic gestures direct towards individuals in a peer-to-peer fashion (https://www.kiva.org). Therefore, the analysis has concluded that the lending-based model with no interest in this case is of a peer-to-peer type.

Figure 11a: The borrower is paying interest. (“Ibrahim – Uganda,” 2019)
Figure 11b: The interest payed is to Kiva’s field partners. (“How Kiva works,” n.d.)
4.1.3.2 Lending-based with interest

Figure 12: A campaign by a real-estate company for building apartments on acquired property. ("Nybyggda hyresrätter utanför Linköping," 2019)

Tessin is a Swedish crowdfunding platform that utilises a lending-based model that offers interest to the funder as shown in the upper right corner (See figure 12). ("Nybyggda hyresrätter utanför Linköping," 2019) The platform focuses exclusively on building projects initiated by real estate companies (https://tessin.com). Therefor the analysis has concluded that this type of crowdfunding is of a peer-to-business type.

Figure 13: TWINO. A lending-based platform with interest of a peer-to-peer type. (https://www.twino.eu)
One of the lending-based platforms of this study utilizes a lending-based model with interest but focuses on loans to individuals (See figure 13). This is a platform of a peer-to-peer type. It could be compared to the role of a bank and is offering loans to anyone over the age of 18. (https://www.twino.eu)

In summary the lending-based model for crowdfunding in this study’s analysis followed two main types in that they differed in expectations of financial return from the crowdfunder: lending-based peer-to-peer with no interest, and lending-based with interest that was either peer-to-peer or peer-to-business.

4.1.4 Equity-based platforms

Crowdcube is a crowdfunding platform that utilizes a typical equity-based model. The funder makes a financial investment for equity. (https://www.crowdcube.com) As shown on the right side of the screenshot, in this particular crowdfunding campaign for ARC vehicle, the crowdfunder can make a financial investment - as small as 10 pounds - for 7.83% equity (See figure 14). (“ARC VEHICLE is raising £850,00,” 2019)
4.1.5 Hybrid platforms

Figure 15a: Early Shares. A hybrid platform that focuses on real-estate projects. (https://www.earlyshares.com)

Figure 15b: Project financed with equity-based model (“Shoppes at Godwin,” 2019)

Figure 15c: Project financed with lending-based model (“Jade on EarlyShares,” 2019)

In this study’s analysis seven crowdfunding platforms turned out to utilize the hybrid model. The platforms fit the definition of a single platform that offer several crowdfunding models. Early Shares is one platform that have a hybrid model and focuses on real-estate projects that utilizes either the equity-based model or the lending-based model (See figure 15a, 15b & 15c) (https://www.earlyshares.com).

This study found six different CFPs with a hybrid model. The table below shows what specific base-models constituted the hybrid model at each of the seven platforms (See table I).
The taxonomy of crowdfunding

Table 1: Depiction of what models constitutes the hybrid model.

<table>
<thead>
<tr>
<th>Platform</th>
<th>Hybrid model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earlyshares</td>
<td>Equity/Lending</td>
</tr>
<tr>
<td>Fig</td>
<td>Equity/Reward</td>
</tr>
<tr>
<td>Funded by me</td>
<td>Equity/Lending</td>
</tr>
<tr>
<td>PledgeMe</td>
<td>Equity/Reward/Lending</td>
</tr>
<tr>
<td>VentureCrowd</td>
<td>Equity/Lending</td>
</tr>
<tr>
<td>Wfunder</td>
<td>Equity/Reward</td>
</tr>
</tbody>
</table>

In summary the hybrid model always constituted an equity-based part. Since the hybrid model always was used for start-ups and ventures (and not directed towards individuals) the potential lending-based part of the hybrid model always constituted the peer-to-business type.

4.1.6 Subscription-based platform

Figure 16: Patreon. A campaign for the illustrator Markus Magnusson. (“Markus Magnusson is creating,” n.d.)
The taxonomy of crowdfunding

**Figure 17**: Five different tiers (levels of rewards) the campaign offers for this campaign. ("Markus Magnusson is creating," n.d.)

In this study Patreon and d.rip utilized a subscription-based model. (https://www.patreon.com; https://d.rip) In the example above, a campaign owner on Patreon has 3 014 crowdfunders (See figure 16). Each crowdfunder has joined one of the five tiers this specific campaign owner has offered (See figure 17). As a crowdfunder in this case you pay a monthly fee to get access to the content equivalent to the fee (tier) you pay. ("Markus Magnusson is creating," n.d.)

4.2 **The compiled result of the analysis**

Below is the result of the analysis of the lists of crowdfunding platforms used in this study – one list showing all platforms under the Wikipedia categorization of crowdfunding platforms and one list showing 174 of the highest funded crowdfunding projects and on which platforms they were executed. ("Category:Crowdfunding platforms,” 2017; “List of highest-funded crowdfunding.” 2019) The platforms have been placed under categories according to this study’s definition of respective category (See theory chapter). The ones who could not be identified were labelled “other”.

---

**Tiers**

**buddies**

$2 or more per month

Access to all tutorials and videos

Join $2 Tier

**best friends**

$5 or more per month

The most popular option. All previous rewards + workfiles(for educational purposes).

Join $5 Tier

**family**

$10 or more per month

All previous rewards + invite to my slack channel where you can ask me all sorts of animation related stuff.

Join $10 Tier

**twins**

$50 or more per month

All previous rewards + invite to my personal skype where I will give you creative advise on your own projects.

Join $50 Tier

**Super Patron 🎊**

$100 or more per month

Access to workfiles(for educational purposes), tutorials, videos & slack channel + One shout out a month in my Instagram stories(124K followers) with your preferred work.

Join $100 Tier
Table 2: All the platforms part of the content analysis. Model and launch date of platform is presented.

<table>
<thead>
<tr>
<th>PLATFORM</th>
<th>MODEL</th>
<th>LAUNCH</th>
<th>PLATFORM</th>
<th>MODEL</th>
<th>LAUNCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>ArtistShare</td>
<td>Reward</td>
<td>2001</td>
<td>Patch of Land</td>
<td>Equity</td>
<td>2012</td>
</tr>
<tr>
<td>GlobalGiving</td>
<td>Donation</td>
<td>2002</td>
<td>Piggybackr</td>
<td>Reward</td>
<td>2012</td>
</tr>
<tr>
<td>Kiva’s</td>
<td>Lending</td>
<td>2005</td>
<td>Planeta.ru</td>
<td>Reward</td>
<td>2012</td>
</tr>
<tr>
<td>Classy</td>
<td>Donation</td>
<td>2006</td>
<td>Seed&amp;Spark</td>
<td>Reward</td>
<td>2012</td>
</tr>
<tr>
<td>51Give</td>
<td>Donation</td>
<td>2007</td>
<td>Seedrs</td>
<td>Equity</td>
<td>2012</td>
</tr>
<tr>
<td>Indiegogo</td>
<td>Reward</td>
<td>2008</td>
<td>Spacehive</td>
<td>Donation</td>
<td>2012</td>
</tr>
<tr>
<td>Bitcoin</td>
<td>Other</td>
<td>2009</td>
<td>Wishberry</td>
<td>Reward</td>
<td>2012</td>
</tr>
<tr>
<td>Fundly</td>
<td>Donation</td>
<td>2009</td>
<td>Betabrand</td>
<td>Reward</td>
<td>2013</td>
</tr>
<tr>
<td>FundRazr</td>
<td>Donation</td>
<td>2009</td>
<td>Companisto</td>
<td>Equity</td>
<td>2013</td>
</tr>
<tr>
<td>Kickstarter</td>
<td>Reward</td>
<td>2009</td>
<td>EnergyFunders</td>
<td>Equity</td>
<td>2013</td>
</tr>
<tr>
<td>Ioby</td>
<td>Donation</td>
<td>2009</td>
<td>EquityNet</td>
<td>Equity</td>
<td>2013</td>
</tr>
<tr>
<td>Crowdrise</td>
<td>Donation</td>
<td>2010</td>
<td>Eureeca</td>
<td>Equity</td>
<td>2013</td>
</tr>
<tr>
<td>GoFundMe</td>
<td>Donation</td>
<td>2010</td>
<td>LaunchGood</td>
<td>Donation</td>
<td>2013</td>
</tr>
<tr>
<td>Meal train</td>
<td>Donation</td>
<td>2010</td>
<td>Our Crowd</td>
<td>Equity</td>
<td>2013</td>
</tr>
<tr>
<td>Pozible</td>
<td>Reward</td>
<td>2010</td>
<td>Patreon</td>
<td>Subscription</td>
<td>2013</td>
</tr>
<tr>
<td>The School Fund</td>
<td>Donation</td>
<td>2010</td>
<td>SeedInvest</td>
<td>Equity</td>
<td>2013</td>
</tr>
<tr>
<td>Ulule</td>
<td>Reward</td>
<td>2010</td>
<td>SyndicateRoom</td>
<td>Equity</td>
<td>2013</td>
</tr>
<tr>
<td>Crowdcube</td>
<td>Equity</td>
<td>2011</td>
<td>VentureCrowd</td>
<td>Hybrid</td>
<td>2013</td>
</tr>
<tr>
<td>DigVentures</td>
<td>Reward</td>
<td>2011</td>
<td>Crowdpac</td>
<td>Donation</td>
<td>2014</td>
</tr>
<tr>
<td>Earlyshares</td>
<td>Hybrid</td>
<td>2011</td>
<td>DonorBox</td>
<td>Donation</td>
<td>2014</td>
</tr>
<tr>
<td>FundedByMe</td>
<td>Hybrid</td>
<td>2011</td>
<td>Impact Guru</td>
<td>Donation</td>
<td>2014</td>
</tr>
<tr>
<td>Headstart</td>
<td>Reward</td>
<td>2011</td>
<td>ShareTheMeal</td>
<td>Donation</td>
<td>2014</td>
</tr>
<tr>
<td>Innovestment</td>
<td>Equity</td>
<td>2011</td>
<td>Tessin</td>
<td>Lending</td>
<td>2014</td>
</tr>
<tr>
<td>Onevest</td>
<td>Equity</td>
<td>2011</td>
<td>Ethereum</td>
<td>Other</td>
<td>2015</td>
</tr>
<tr>
<td>PledgeMe</td>
<td>Hybrid</td>
<td>2011</td>
<td>Fig</td>
<td>Hybrid</td>
<td>2015</td>
</tr>
<tr>
<td>Symbid</td>
<td>Equity</td>
<td>2011</td>
<td>PieShell</td>
<td>Reward</td>
<td>2015</td>
</tr>
<tr>
<td>Trillion Fund</td>
<td>Equity</td>
<td>2011</td>
<td>DonorSee</td>
<td>Donation</td>
<td>2016</td>
</tr>
<tr>
<td>Watsi</td>
<td>Donation</td>
<td>2011</td>
<td>EdAid</td>
<td>Lending</td>
<td>2016</td>
</tr>
<tr>
<td>Wefunder</td>
<td>Hybrid</td>
<td>2011</td>
<td>Liberapay</td>
<td>Donation</td>
<td>2016</td>
</tr>
<tr>
<td>Bountysource</td>
<td>Other</td>
<td>2012</td>
<td>Lisk</td>
<td>Other</td>
<td>2016</td>
</tr>
<tr>
<td>Crowd Supply</td>
<td>Reward</td>
<td>2012</td>
<td>Waves</td>
<td>Other</td>
<td>2016</td>
</tr>
<tr>
<td>Experiment</td>
<td>Donation</td>
<td>2012</td>
<td>d.rip (kickstarter)</td>
<td>Subscription</td>
<td>2017</td>
</tr>
<tr>
<td>Experiment.com</td>
<td>Donation</td>
<td>2012</td>
<td>Qtum</td>
<td>Other</td>
<td>2017</td>
</tr>
<tr>
<td>Invedor</td>
<td>Equity</td>
<td>2012</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In summary 67 CFPs where included in this study. 61 of these platforms could be categorized in accordance with earlier taxonomies of crowdfunding and conventional defined models for crowdfunding. Six of these platforms (9%), however, did not fit into these existing categories (See figure 18). It is noticeable that all of these “other” platforms where launched during the last years. Four of these between 2015 and 2017 (See figure 19).
Figure 18: A circle diagram showing the distribution of crowdfunding models among 67 CFPs.

Figure 19: Showing launch of crowdfunding platforms by model.
4.3 The “others"

In the result of this study six of the platforms were of particular interest. Firstly, because they couldn’t be categorized according to any of the conventional categories used in earlier crowdfunding research. Still they clearly fit into this study’s definition of crowdfunding (See theory chapter) based on a widely consensualized terminology. Secondly, it was highly interesting that five of these six platforms turned out to have executed over half of the 72 highest funded crowdfunding campaigns ever. These five platforms have almost all seen their launch between 2015 and 2017.

4.3.1 Blockchain platforms

Of all of the “other” platforms Ethereum stood out being the platform for 32 of the 174 highest funded campaigns and the platform with the two highest crowdfunded campaigns all time (“List of highest-funded crowdfunding,” 2019). Ethereum is a blockchain platform that describes itself as a “...global, open-source platform for decentralized applications. On Ethereum, you can write code that controls digital value, runs exactly as programmed, and is accessible anywhere in the world” (https://www.ethereum.org)

Figure 20: The webpage of Ethereum. (https://www.ethereum.org)
Waves is also a platform worth mentioning because it has been the platform for three of the 72 highest funded crowdfunding campaigns (“List of highest-funded crowdfunding,” 2019). Waves has similar aspirations as Ethereum and describes itself as an “Open-source blockchain platform for cutting-edge dApps – giving you the tools to build your own incredible WEB3 solutions.” (https://wavesplatform.com)

4.3.1.1 Crowdfunding through ICO

The platforms mentioned above, and the initiated projects on their platforms have all had been funded though the model of an ICO (or “token sale” or “crowd sale”). It is of importance to note that these projects have all been funded during the very last years with a notable upraise in 2017 where almost all of the very highest funded crowdfunding projects where ICOs. (“List of highest-funded crowdfunding,” 2019)

There are several ICO-listing websites that list planned and ongoing ICOs. These webpages also offer ratings, reviews and links to the particular ICO’s website where you can participate in the crowd sale (See figure 21). These sites are a very useful utility for gathering information about different ICOs but cannot be considered to be crowdfunding platforms themselves. In general, different ICO-listing websites list the same ICOs and are not the final intermediary for the crowdfunding - the blockchain platforms can be said to play that role. (https://topicolist.com; https://www.listico.io; https://www.icohotlist.com; https://icobench.com/)

Figure 21: An example of an ICO-listing website showing current ICOs (https://topicolist.com).
4.3.1.2 Utility vs. security token

When analysing different ICOs executed on Ethereum it was confirmed that there were mainly two different types of ICOs. In the example below which is for Faireum - an online casino based on blockchain technology, the crowdsale was for the token “Faireum” which is a utility token (See figure 22). A Faireum-token will be of use when the online casino opens. Then it will be the casinos currency for gambling, and one will be able to exchange it for another cryptocurrency and subsequently for traditional currency. (https://faireum.io/)

Figure 22: The crowdsale for Faireum (https://faireum.io).

Stellero on the other hand is an example of an ICO that offers a crowdsale of security tokens to finance the start-up (See figure 23). Stellero is an investment banking platform that will issue its own security token that will be a means to invest in the platform’s technological underwriter. The security token will increase its value if Stellero succeeds as a business. (https://www.stellerro.com)
4.3.2 A bounty-based platform

One of the platforms turned out to have a model unlike any of the other platforms in this study. The platform describes itself as: “Bountysource is the funding platform for open-source software. Users can improve the open-source projects they love by creating/collecting bounties and pledging to fundraisers.” (Praestholm, 2019, para. 1)

Most commonly campaign owners post what they want to be coded in an open-source software or free software (See figure 24). They set a bounty and start a crowdfunding campaign. Often the campaign owner contributes a large part of the bounty themselves, especially if the campaign owner is somehow the original creator or owner of the software program. (https://bountysource.org) But the mechanism behind the crowdfunding it is that anyone can help fund the project - and often that is the case (See figure 25) (“Dynamic recompiler,” 2017). After the project is financed developers start creating solutions which hopefully closes the issue. If they succeed, they claim the corresponding bounties for their solution. The backers can now accept or reject the claim. If the claim is accepted, the bounties are payed to the developer. The analysis found three parties involved in bounty-based campaign: the campaign owner, the crowdfunder and the developer. Depending if you are a crowdfunder or a developer the return is different. If you are a developer, there is financial return in bounty-based crowdfunding since you get paid in bounties for the work you do. If you are a funder this study would argue that
there is reward involved; the funders seem to have an interest in getting a particular problem solved and will therefore crowdfund the project. (https://bountysource.org) This study has named this type of crowdfunding "bounty-based crowdfunding". This term was a natural consequence of the mechanisms behind the model used on Bountysource.

Figure 24: Bountysource. A bounty-based crowdfunding platform. (https://www.bountysource.com)

Figure 25: A crowdfunding project with a bounty of 915 USD. This project had 19 different backers. ("Dynamic recompiler," 2017)
4.3.3 Royalty-based platforms?

No royalty-based platform was found among the platforms analysed in this study. A further search on google.com for a royalty-based platform didn’t lead to any findings. A possible reason for the absence of royalty-based platforms is discussed in the discussion-chapter.
5 Discussion

There were valuable data retrieved from the analysis of this study. The analysis mostly confirmed prior research and existing models of crowdfunding. However, three of these existing models and their constitution will be discussed and specified in order to understand the reality of the mechanisms behind them. Therefore, in the first part of this chapter, the lending-based model is discussed in terms of three specific types. The hybrid model is also discussed in terms of what base-models the analysis showed it to consist of. The subscription-based model is discussed in terms of which superordinate category it falls under. Finally, the absence of royalty-based crowdfunding today is discussed.

This chapter also discusses how both ICO and bounty-based crowdfunding should be a part of a new taxonomy in order to describe the reality of crowdfunding today.

Finally, in this chapter, the proposition of three superordinate categories of crowdfunding instead of the prior two (financial and non-financial return crowdfunding) is discussed. The discussion is finalized and concluded in a new updated taxonomy of crowdfunding.

5.1 Prior models specified

The lending-based model is discussed in terms of the three different types that the analysis showed. The hybrid model and which base-models it seems to consist of is discussed. The subscription-based model and which superordinate category it falls under is also discussed.

5.1.1 Lending-based crowdfunding

Prior research has identified the lending-based model as a financial return form of crowdfunding (Candelise, 2015; Massolution, 2015; Wilson, et al., 2014;). This study has shown that there are forms of lending-based crowdfunding that offer no interest to the crowdfunder. This type of crowdfunding was of the peer-to-peer type (P2P). (https://www.kiva.org) Furthermore the Lending-based model with interest was either of a peer-to-peer model or a peer-to-business model (https://tessin.com; https://www.twino.eu). The visual mapping of these three different lending-based types are proposed as below (See figure 26a & b).
5.1.2 Hybrid

The hybrid model consists of other crowdfunding models (Massolution, 2015). The analysis of seven hybrid platforms showed what models constituted the hybrid model (See table 1). The lending-based part of a hybrid model always constituted the peer-to-business type.

<table>
<thead>
<tr>
<th>Platform</th>
<th>Hybrid model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earlyshares</td>
<td>Equity/Lending</td>
</tr>
<tr>
<td>Fig</td>
<td>Equity/Reward</td>
</tr>
<tr>
<td>Funded by me</td>
<td>Equity/Lending</td>
</tr>
<tr>
<td>PledgeMe</td>
<td>Equity/Reward/Lending</td>
</tr>
<tr>
<td>VentureCrowd</td>
<td>Equity/Lending</td>
</tr>
<tr>
<td>Wfunder</td>
<td>Equity/Reward</td>
</tr>
</tbody>
</table>

A visual mapping of how the base-models relate to the hybrid model is therefore proposed as below (See figure 27).

| Figure 26a: Lending-based with no interest. | Figure 26b. Lending-based with interest. |

| Figure 27: How the other base-models relate to the hybrid model. |
5.1.3 **Subscription-based crowdfunding**

The subscription-based model is defined in two prior studies as a model where campaign owners charge the crowdfunders either by a monthly basis or by content released (Nagai, Mano & Kim, 2018; Wallis & Jenner, 2015). This study’s analysis confirmed the definition and also confirms that the model is very similar to the reward-based model but differs from the reward-based model in two ways. Firstly because of the reoccurring payments in a subscription fashion and how the content or product is available directly or shortly after the payment. Secondly because the crowdfunder often only pays after content is released and available.

Therefore, through the perspective of the proposed exchange between campaign owner and crowdfunder, the subscription-based model stands as its own model in a taxonomy. Still it has never before been put in a taxonomy of crowdfunding (Nagai, et al. 2018; Wallis & Jenner, 2015). This study would place the subscription-based model under the same superordinate category as reward-based crowdfunding since they both offer some sort of product in return for funding.

5.1.4 **The absence of Royalty-based platforms**

Royalty-based crowdfunding gained traction in 2014 and seemed to be on the uprise. The idea was that the funder was guaranteed a certain percentage or fixed amount of revenues accruing for intellectual property. (Candelise, 2015) However this study couldn’t identify a single royalty-based crowdfunding platform on the two lists of crowdfunding platforms that were subject to analysis. (“Category:Crowdfudning platforms,” 2017; “List of highest-funded crowdfudning,” 2019) Neither through a search on google.com no royalty-based platform was found.

Around the same time as royalty-based models seemed to gain traction a subscription-based model that appeared on the crowdfunding map: Patreon. (Candelise, 2015; Nagai, et al. 2018; Wallis & Jenner, 2015)

Since Patreon is also directed towards creators of intellectual property it can be argued that their model has outperformed the royalty-based model. It is not difficult to see that the subscription-based model might be more attractive to creators of content because the kept control of intellectual property, and the possibility to establish a direct relationship with their consumers (https://www.patreon.com).
5.2 New models introduced

The analysis showed that the models which could not be defined in accordance with prior taxonomies have emerged during recent years. The models turned out to be ICO and bounty-based crowdfunding.

ICO

Ethereum stood out as a platform for executing ICOs since it was the platform for 32 of the 174 highest funded campaigns of all time. (“List of highest-funded crowdfunding,” 2019) First off, this study’s analysis of an ICO turned out to fit this study’s definition of crowdfunding as “…any kind of capital formation where both funding needs and funding purposes are communicated broadly, via an open call, in a forum where the call can be evaluated by a large group of individuals, the crowd, generally taking place on the Internet.” (Massolution, 2015, p. 34) However, ICO doesn’t fit into any of the conventional models for crowdfunding since the mechanisms are different, mostly because of the use of blockchain technology and tokens (https://faireum.io; https://www.stellarro.com). It should therefore be considered as a new model of crowdfunding. The tokens issued in an ICO are given a value either through becoming a “utility token” or a “security token” (Fisch, 2019). This was confirmed in the analysis (https://faireum.io; https://www.stellarro.com). These two types of tokens are therefore proposed as two subcategories of ICO because of their separated nature (See figure 28).

![Figure 28. The two subcategories of ICO: Security token and utility token.](image)
5.2.1 **Bounty-based crowdfunding**

Bounty-based crowdfunding turned out to utilize a model unlike any of the other models, but still fit into this study’s definition of crowdfunding as “...any kind of capital formation where both funding needs and funding purposes are communicated broadly, via an open call, in a forum where the call can be evaluated by a large group of individuals, the crowd, generally taking place on the Internet.” (Massolution, 2015, p. 34). There are three parties involved in bounty-based campaign: the campaign owner, the crowdfunder and the developer. Depending if you are a funder or developer the return is different. If you are a developer, there is financial return in bounty-based crowdfunding since you get paid in bounties. The funders seem to have an interest in getting a particular problem solved with a software and will therefore crowdfund the project. (https://www.bountysource.com)

Crowdfunding has been described as being either of a “non-financial return” form or a “financial return” form. The difference being that the earlier does not provide financial return whereas the latter does. (Massolution, 2015) In this aspect the bounty-based model is neither a pure non-financial return model nor a pure financial return model.

5.3 **Three superordinate categories**

The analysis found a substantial difference between for example reward-based and donation-based crowdfunding. In reward-based crowdfunding the funder gets value that is equivalent to the amount of money he/she funds the project with (https://www.ulule.com). In donation-based crowdfunding the funder gets no return (https://www.gofundme.com). Prior research has organized the two under the same superordinate category of non-financial return (Candelise, 2015; Massolution, 2015; Wilson, et al., 2014;). Meanwhile, the widely used crowdfunding taxonomy is determined by the proposed exchange between campaign owner and crowdfunder (Massolution, 2015). With that definition in mind, it is insufficient to organize reward-based crowdfunding and donation-based crowdfunding under the same superordinate category since the exchange between campaign owner and crowdfunder is so different between the two. To call reward-based crowdfunding (and subscription-based crowdfunding) non-financial comes up short in describing the mechanism behind the exchange between funder and campaign-owner. This study therefore proposes to call this form of crowdfunding “Value return” instead of non-financial.

When donating or lending without interest the funder expect no material value in return. These two models were also used exclusively for philanthropic gestures (https://www.gofundme.com;
https://www.kiva.org). This study would therefore argue that this form of crowdfunding has the characteristics of charity and therefore proposes to call this form of crowdfunding “Charity” instead of non-financial.

The term financial return is used by several studies to describe crowdfunding that yields return on investments. (Candelise, 2015; Massolution, 2015; Wilson, et al., 2014). That term is still considered sufficient by this study in describing the nature of for example equity-based crowdfunding.

5.4 A new taxonomy

A new updated taxonomy is proposed below as a visual depiction and summary of the discussion (See figure 29). In line with prior classifications it is based on what type of return that can be expected by the funder (Méric, et al., 2016). The taxonomy could be described as a concept mapping showing the relationships among crowdfunding models. The models are represented as boxes or circles that are connected to each other with arrows. (Elo & Kyngäs, 2008)

The three superordinate categories of financial return, value return and charity have been colorized in order to depict the composite nature of the hybrid model, the bounty-based model and the ICO. In the case of the hybrid model it can, as discussed, offer both financial return and value return simultaneously. The bounty-based model offers value return or financial return depending on if you are a funder or a developer in the crowdfunding campaign. If you are a funder the model offers value return in the form of software or code. If you are a developer, there is financial return involved for solving the coding issue at hand. As for the ICO, it offers value return if you participate in an ICO by buying a utility token. If you buy a security token on the other hand, there can be financial return involved.
Figure 29: A new updated taxonomy of crowdfunding.
6 Conclusion

The conclusion of this study is that crowdfunding has seen a lot of interesting and ground-breaking developments during the past few years. There is a need for an updated taxonomy to fully understand the crowdfunding phenomenon today and where it might be heading. The taxonomy discussed and proposed in this study could be a useful tool for further studies and insights into crowdfunding and its future developments.

During recent years blockchain platforms with new models for crowdfunding through ICOs have emerged. ICOs will likely continue to develop and realize new ventures by expanding to more industries. Blockchain platforms in general are in their decentralized, transparent and immutable nature ideal for funding purposes. Other forms of blockchain-based crowdfunding models besides the ICO might therefore emerge. For example, a bounty-based crowdfunding model could be implemented in a blockchain and in theory become a brand new decentralized way of starting up and running a business. A bounty-based model with smart contracts could be the vehicle for presenting a new business idea and initiate a crowdfunding campaign for that idea. If the idea was for a software for example, that software could be built entirely with the help of freelance-developers doing tasks for bounties, tokens or cryptocurrencies. Eventually the project would be realized and turned into a product or service that generates revenue, and possibly dividends for the crowdfunders. Something like that would be a business with a completely decentralized organization form, not depending on traditional financing, business structure and leadership.

Interesting times are ahead and crowdfunding will likely be a part of that future, hopefully by democratizing and decentralizing the economical and juridical domains for the benefit of innovation and the individual.

6.1 Future possible result

If further studies would be conducted it would be interesting to see a deeper analysis of the new models of crowdfunding discussed in this study. For example, it would be highly relevant to see the rate of ICOs being realized and providing actual dividends for the crowdfunders. A deeper analysis of the trends of crowdfunding models would also be of relevance in order to see clearer what we might expect from the future.
References


ARC VEHICLE is raising £850,00 investment on Crowdcube. (2019). Retrieved from https://www.crowdcube.com/companies/arc-vehicle/pitches/bAxLkZ


Appendix 1: List of crowdfunding platforms analysed and their addresses

http://www.51give.org/

http://www.artistshare.com/

https://www.betabrand.com/

https://bitcoin.org

https://www.bountysource.com/

https://www.companisto.com/de

https://www.crowdrise.com/

https://www.crowdsupply.com/

https://www.classy.org/

https://www.crowdcube.com/

https://www.crowdpac.com/

https://d.rip/

https://digventures.com/

https://donorbox.org/

https://donorsee.com/

https://www.earlyshares.com/

https://edaid.com/

https://www.energyfunders.com/

https://www.equitynet.com/
The taxonomy of crowdfunding

https://eureeca.com
https://ethereum.org/
https://experiment.com/
https://www.fig.co/
https://www.fundable.com/
https://www.fundedbyme.com
https://fundly.com/
https://fundrazr.com/
https://www.globalgiving.org
https://www.gofundme.com/
https://headstart.co.il/
https://www.impactguru.com/
https://www.indiegogo.com/
https://www.innovestment.de/
https://home.invesdor.com/
https://www.ioby.org/
https://www.kickstarter.com/
https://www.kiva.org/
https://www.launchgood.com
https://liberapay.com/
https://lisk.io/
https://www.mealtrain.com/
https://www.onevest.com/
https://www.ourcrowd.com/
https://patchofland.com/
https://www.patreon.com/
https://www.pieshell.com/
https://www.pledgeme.co.nz/
https://www.piggybackr.com/
https://planeta.ru/
https://www.pozible.com/
https://qtum.org/
https://www.seedandspark.com/
https://www.seedinvest.com/
https://www.seedrs.com/
https://sharethemeal.org
https://www.spacehive.com/
https://www.symbid.com/
https://www.syndicateroom.com/
https://tessin.com/
https://trillionfund.com/
https://theschoolfund.org
https://www.ulule.com/
https://watsi.org/

https://wavesplatform.com/

https://wefunder.com/

https://www.wishberry.in/