Framing within technology crowdfunding campaigns
How does the use of different cognitive framing categories influence the crowdfunding success of technology startups?

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Abstract

This study explores the relationship between the use of framing within crowdfunding campaigns of technology startup companies and the funding outcomes of these campaigns. We examine how the presence of cognitive framing categories of opportunity, threat, novelty and commonality within crowdfunding pitches of technology startups affect the chance of successfully receiving funding.

In order to examine the effect of framing on the funding outcomes of crowdfunding campaigns, a qualitative, explorative research approach is employed. With the use of an existing framing framework, we identify, categorize and analyze the content of crowdfunding campaigns. The data sample we analyze is comprised of publicly available technology company crowdfunding campaigns collected from Kickstarter, a crowdfunding platform.

The results suggest that the presence of novelty and opportunity framing within crowdfunding campaigns is most closely associated with successful funding. We also discover that several other campaign components, both prose and non-prose, which did not conform into the framing cognitive categories outlined, may also be important for the successful funding of campaigns.

Keywords: Framing, rhetoric, crowdfunding, funding, startups, tech
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1 Introduction
Crowdfunding has become a popular and convenient method for companies to gain financing. With the first crowdfunding platform created in the early 2000s (Gafni, Marom & Sade, 2019), the practice has grown to 452 platforms worldwide, just in 2012. As crowdfunding has become a more familiar method of gaining finance, companies are becoming increasingly sophisticated at creating campaigns in order to receive support from backers and strive to perfect the campaigns by improving all the components. One of the components of crowdfunding campaigns which is associated with successful funding is the framing used in the communication to funders (House, Livingston, Summers & Watt, 2016). Framing, which is defined by (Benford & Snow, 2000) as a manner to phrase a message in way that implicates a certain meaning towards the message recipient, emerged from the field of rhetoric studies in the 18th century and has been since discussed in relation to various disciplines and contexts (Fairhurst, 2005).

Since the inception of the study of framing, a significant amount of literature was created. Bateson (1972) and Goffman (1974), one of the earlier contributors to the framing literature, explored how framing affects the message communicated. Tversky and Kahneman (1986) followed by exploring how framing of a problem influences decision making. A recent study within the field of framing is one about the cognitive categories of framing (Czernich & Zander, 2010). The authors, who draw from the studies of Jackson and Dutton (1988) and Nutt (1998), list threat, opportunity, novelty and commonality as the four cognitive categories, which can be used as a short-cut to convey the meaning and implications of new information. Being one of the main existing frameworks within framing literature, this framework proposed by Czernich and Zander (2010) is vital for our study, as it focuses our research on a specific scope, provides us with some fundamental understanding of framing and is an effective mechanism which can be used to categorize rich data.

As we are interested in exploring framing within the context of crowdfunding, we investigated several studies within this field as well. Crowdfunding, which is defined as a communication process in which one party persuades another party to provide financial backing in exchange for some form of rewards or rights (Belleflamme, Lambert & Schwienbacher, 2014), has also been a popular research subject within the last decade. Several studies explore the different dimensions crowdfunding campaigns. House et al. (2016) explore the flexibility of the message for a variety of audience, Davis et al. (2017) explore the correlation of entrepreneurial passion to crowdfunding success and Mollick
(2014) relates successful campaigns to smaller goals, short campaign durations and the presence of a campaign video.

Several studies have also explored the relationship between framing within the context of crowdfunding campaigns, with Huhtamäki, Lasrado, Menon, Kärkkäinen & Jussila (2015) exploring the rhetorical contents of the crowdfunding pitch and Mitra and Gilbert (2014) exploring the predictors of successful crowdfunding campaigns. These studies were important to us in order understand the main concepts within crowdfunding, as well as the progress that has been made within the research field of crowdfunding.

1.1 Problem Statement
As of April 2019, the technology companies on Kickstarter.com, a crowdfunding platform, are the least successful at achieving the established funding goal, having a success rate of only 20.32% (“Kickstarter Stats”, 2019). This low rate of success results in more competitive tactics, where companies must employ all their assets in order to succeed. As the technology industry is becoming more competitive, it is crucial that technology companies are able to understand the framing and how it can be used, as framing ultimately affects the success of crowdfunding campaigns.

Even though there is a significant amount of research within the fields of framing and crowdfunding, as well as about the relationship between the two variables, there has been little effort to categorize the framing strategies related to the successes and failures of crowdfunding campaigns into simple categories. Several master theses from Uppsala University (Conte, 2015; Waij, 2018) explore the framing within crowdfunding pitches; the first analyzing art projects framing and the later analyzing the aspect of passion within framing. However, both of the theses apply a quantitative approach, using a word extracting software for analysis and focus on specific content. While the quantitative analysis is valuable, it also has its disadvantages, such as generalization and a limited variety of generated findings (Bryman & Bell, 2015). As well, a quantitative analysis may not consider all of the contextual data, and thus may not be as appropriate as a qualitative approach for more complex thematic analysis (Franzosi, 1995). Thus, a significant gap within the crowdfunding framing literature is a study with a qualitative approach. This is problematic, as the absence of a qualitative approach prevents generation of richer and varied insights. The lack of such approach prevents a holistic analysis of the framing methods. As well, it is important to note there are currently no studies which specifically explore the effects of framing within a technology company research setting.
1.2 Research Question
In order to lessen this gap within crowdfunding literature and to provide technology companies with an understanding of how framing can be used to increase the chances of successfully crowdfunding their projects, we intend to answer the following question:

*How does the use of the different cognitive framing categories influence the crowdfunding success of technology startups?*

1.3 Purpose
We anticipate that our findings will be useful for technology companies interested in raising funds through crowdfunding. We aspire that these companies will be able to use our conclusions to improve their application of framing within their campaigns, and as a result improve their campaigns’ chances of success. As well, we aim to contribute to the existing literature by generating qualitative insight from the analysis of framing discovered within crowdfunding campaigns, as well as other variables within the campaigns which could not be categorized with the use of the cognitive framing categories framework outlined by Czernich and Zander (2010).

In order to contribute to the identified gap within the crowdfunding framing literate, we analyze crowdfunding campaigns on Kickstater.com, a crowdfunding platform. This data is publicly accessible and easily categorized in desired sample brackets through the website’s filters, allowing us to focus on the specific group of technology companies and their campaigns. Our study focuses on campaigns which are either extremely successful and or extremely unsuccessful at achieving their funding goals.

As we aim to generate an extensive spectrum of insights, we apply a qualitative approach, which is explorative in nature, to analyze the data. Our approach is abductive as we create a coding scheme based on the cognitive categories of commonality, novelty, threat and opportunity outlined by Czernich and Zander (2010), but are mindful of newly emerging themes. We use this framework, as well as a rhetoric perspective to identify, categorize and analyze the content, as well explore the presence of any content that does not conform to this framework.
1.4 Findings

The main findings of our study describe the variance in crowdfunding success in relation to the application of the different framing cognitive categories outlined by Czernich and Zander (2010). The findings within successful campaigns in relation to framing are compared to the same variables with the failed campaigns, thus distinguishing the framing related components which are associated with successful funding. During the research process we also discovered some content associated with successful funding which did not conform within the mentioned framing categories framework, yet still contained a type of framing.
2 Literature review

In this literature review we explore the research within the subjects of framing and crowdfunding, as well as research that combines the two subjects.

2.1 Framing

The theoretical concept of framing emerged within the field of rhetoric studies during the 18\textsuperscript{th} century and has since been discussed within various research disciplines (Fairhurst, 2005). Framing has been particularly noted within the social sciences and is described as range of perspectives and models about how individuals, groups and organizations perceive, organize and communicate their perception of reality. Framing is, partly unnoticed, applied throughout various communication layers in our society, such as mass media, social and political dialogue and organizations (Druckman, 2001a). Within the study of anthropology for example, Bateson (1972) mentions framing in relation to the effects it has on how communication partners perceive messages and their relationships to each other. Within sociology, Goffman (1974) shares a similar perspective and characterizes frames as communication tool which produces meaning, however mentions that frames would be based on previous experiences.

With their study on how the framing of a problem influences decision making, the psychologists Tversky and Kahneman (1981) contribute significantly to framing research and provide empirical results. The study triggered further research activities of framing and its appliance on negotiations and issue development (Bazerman, 1984; Neale, Huber & Northcraft, 1987; Putnam & Holmer, 1992). A frequently cited definition within media framing research describes framing as encouragement of a “to frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation” (Entman, 1993). Fairhurst and Sarr (1996) share this perspective and define framing as the ‘ability to shape the meaning of a subject, to judge its character and significance. To hold the frame of a subject is to choose one particular meaning over another (Fairhurst & Sarr, 1996). Fairhurst and Sarr (1996) claim that when we share our frames with others, we manage meaning because we assert that our interpretations should be considered as most appropriate over other possible interpretations. While the previously mentioned fields of research have ascribed various aspects to the meaning of framing, at its core, framing is defined as phrasing a message in a way that implicates a certain meaning towards the
recipient (Benford & Snow, 2000). The intention of framing is to promote specific issues or projects and to create frameworks that simplify the processing and evaluation of new information (Dutton & Ashford, 1993).

2.1.1 Cognitive Categories of Framing

A framework that is acknowledged to be a major approach in framing theory and field-tested in several studies (Czernich & Zander, 2010; Dutton, Ashford, O’Neill & Lawrence, 2001; Jackson & Dutton, 1988; Nutt, 1998) is the concept of cognitive categories. We will apply this framework in our study, as it allows us to focus on a specific research scope and thus yield a more extensive spectrum of findings within the specified scope. Cognitive categories represent certain directions of framing and help individuals with perceiving and sense-making of new information (Czernich & Zander, 2010). By applying specific cognitive categories to new information, the conveyed content within becomes more valuable and insightful. The categories share comparable attributes, which enable the message sender to use them as shortcuts when conveying the meaning and implications of new information, such as issues, projects or events (Czernich & Zander, 2010). The essential three categories within the framework are identified as threat, opportunity and novelty. A fourth category that is mentioned is commonality, however, it seems to be of lesser significance (Czernich & Zander, 2010).

While threat is associated with negative outcomes, loss and uncontrollable situations, opportunity is associated with positive outcomes, gain and controllable situations (Czernich & Zander, 2010). While these attributes are considered to be distinctly connected with either threat or opportunity, this does not necessarily imply that the categories of threat and opportunity are opposites in all aspects. Both categories can create pressure and demand the need for action (Jackson & Dutton, 1988). An example of this is when a manager perceives a technology that is newly introduced by a competitor as a threat, but at the same time realizes that it offers an opportunity to innovate and enter new markets (Czernich & Zander, 2010). Novelty and its perception have been extensively discussed within organizational change literature, with two connotations being identified (Ahuja & Lampert, 2001). Novelty can either relate to something entirely new in a broad sense, where the object, issue or event is equally new to all observers, such as a groundbreaking innovation (Czernich & Zander, 2010). It may also refer to something that is new in a specific context, i.e. novel practices or experiences in a certain organization. The fourth cognitive category commonality, which
describes the extent to which novel ideas, concepts or projects are aligned with already established practices, can be understood as the opposite of novelty. It is not limited to a certain connotation but applies both in a general and firm-specific sense.

As explanation for why framing is so commonly used, Fiske and Taylor (1991) claim that it is due to its capacity to work as mental filters. They elaborate that people prefer to do as little thinking as possible by nature and that frames provide a comfortable and quick way to simplify information processing. Thus, it can be assumed that individuals use a series of filters and previous experiences to rapidly interpret a received message (Fiske & Taylor, 1991). Consequently, the sender of a message has a great power to use these schemas to influence the recipient and how he/she will interpret the message to their advantage (Entman, 1993).

2.1.2 Strategic Use of Framing
The previously mentioned study of Tversky and Kahneman (1981) has become a classic example of applied framing and can be employed to elaborate how certain framing of the same issue can lead individuals to perceive new information in a distinct way. In said study, the psychologists invited participants to choose between four programs which would be applied to remedy an unknown disease that was expected to kill 600 people. The programs were divided in two frames, one being gain and one being loss, and within the frames representing a riskier and a safer choice. Although the programs were just different ways of describing the same problem, the majority of participants was risk-adverse in the gain frame and risk-seeking in the loss frame (Colman, 2015). This effect occurs even if both problems are presented to the same group of participants and suggests that through framing the actions of information receivers, and thus the probability that a desired outcome will occur, can be increased.

Research in organizational studies includes this observation into their concepts on how intrapreneurs can use framing to generate attention and support (Fiol, 1994). When successful, the correct framing helps to create a positive attitude towards the new concept, and ultimately results in the decision to have it implemented. Beyond that, individuals can also use it to intentionally convey a perceived reality which is not necessarily aligned with the actual facts (Czernich & Zander, 2010). An example for this is provided by Pinchot (Pinchot, 1985) who describes how the lead intrapreneur at GM, in response to changing top
priorities within the company, presented and “sold” the Fiero sports car to the top management as a fuel-efficient car for commuters.

2.1.3 Theories Regarding Framing Effectiveness

While framing literature primarily investigates how framing is applied to convey a message, the most effective framing approach for generating attention and successfully raising funding has not yet been explored (Czernich & Zander, 2010). Czernich and Zander (2010) have assessed several theories regarding the outcomes of the various framing cognitive categories use.

The first theory mentioned by Czernich and Zander (2010) is drawn from the studies of Jackson and Dutton (1988) concerns the extent to which business ideas are presented as a response to a threat or take advantage of opportunities. While research describes that the actual impact of threat versus opportunity framing is comparable, Nutt (1998) illustrates that perceived threat leads to significantly shorter decision processes. Thus, it is expected that the framing of a new concept as response to a threat would be more effective than framing it as an opportunity (Czernich & Zander, 2010).

The second theory outlined by Czernich and Zander (2010) advocates that presenting a concept as something that is similar to an existing solution is more effective than to present it as something entirely new. A familiar concept does not only convey a greater sense of control towards the potential project funders, who are able to compare specifics of the concept to existing ones, but also generates legitimacy as similar concepts were successful in the past. Consequently, concepts that are presented as being aligned with established practices are more likely to be funded compared to those that contain novelty framing within (Czernich & Zander, 2010). To sum up, based on the studies of Jackson and Dutton (1988) and Nutt (1998), we can expect that there is a preference for emphasizing threat rather than opportunity in the framing of new concepts.

Currently, there is no absolute consensus within the framing theory space and several alternative theories which contradict the previously stated expectations have emerged. The prospect theory (Chattopadhyay, Glick & Huber, 2001) opposes the second theory outlined by Czernich and Zander (2010) and suggests that instead of favoring solutions which are aligned with established ones, threat of a potential loss shifts the focus of the parties at risk to novel, unfamiliar solutions. Therefore, the most effective way of framing would be to not only respond to the threat, but also propose a novel solution to mitigate this threat (Czernich
& Zander, 2010). Another point of critique is that the continued use of threat for generating attention can lead to potential funders abandoning support for the project (Jackson & Dutton, 1988).

As elaborated in the previous paragraph, the expectations towards the most effective framing approaches are opposed by competing theories. In their empirical study about framing of novel business concepts, the corporate entrepreneurship researchers (Czernich & Zander, 2010) discovered no single most effective way of framing. The main insight they discovered was that three clusters emerged in their sample, the largest making predominant use of opportunity framing, the second largest employing a combination of threat and opportunity, and the smallest using no framing at all. Thus, they concluded that entrepreneurs may emphasize both threat and opportunity, as well as novelty and commonality, depending on the particular audience and situation (Czernich & Zander, 2010).

2.2 Crowdfunding

Crowdfunding can be described as a modern form of communication allowing lenders and investors to connect. Belleflamme et al. (2014), who are among the most cited authors within the crowdfunding literature, define crowdfunding as open request for financial contribution in return for a form of reward or voting rights in order to support a specific project. The practice of crowdfunding is considered to be a result of merging trends such as alternative forms of investments, surge in use of internet, online commerce, social media and advertising (Belleflamme et al., 2014). With the first crowdfunding platform created in early 2000s, the practice has grown to 452 platforms worldwide, just in 2012 (Gafni et al., 2019).

The three main components of crowdfunding are project founders or entrepreneurs, crowd funders or backers and crowdfunding platforms, which serve as the connectors of the first two parties (Yuan, Lau & Xu, 2016). The crowd funders or backers are requested to provide funds, ideas, donations, feedback or solutions to the project founders in exchange for equity, product, voting rights or some other form or reward (Belleflamme et al., 2014).

Crowdfunding has significant variations, and can be categorized into non-profit and for-profit categories (Yuan et al., 2016), where the ventures are non-profit or commercial. Commercial crowdfunding ventures can be categorized into the reward, pre-purchase, lending, equity and donation models (Gafni et al., 2019), each model being a different type of agreement between the project founders and funders. As well, it is important to note the presence of the all keep-it-all and all-or-nothing models (Cumming, Leboeuf &
The keep-it-all models allows the project founders to retain and use all the funds pledged regardless if the goal is achieved, while the all-or-nothing allows the project founders to retain and use the funds only if the set goal is achieved (Cumming et al. 2014). The keep-it-all model is used within Indiegogo, while the all-or-nothing model is used within Kickstarter; Indiegogo and Kickstarter being the largest crowdfunding platforms in 2019.

The five stages of crowdfunding include selecting a platform, providing information to investors, connecting with investors, choice of model (keep-it-all vs all-or-nothing), and work after the target is achieved (Pierrakis & Collins, 2013).

2.2.1 Typical Campaign Content

In order to rationalize the relatively new concept of crowdfunding, several studies create an archetype of a campaign and relate the concept to already existing methods. House et al. (2016) analyzes Kickstarter campaigns and creates a typical campaign content summary. The campaigns usually begin with a pain statement, which is followed by a project or product solution, often visual and attention-grabbing. Often, the campaigns go beyond a typical elevator pitch, and include a presentation of the project idea, production schedule, risks and entrepreneur personal information (House et al., 2016). A key component of the crowdfunding campaigns is often a video, which contains the pitch. A study by Mamonov and Malaga (2018) states that ventures which use videos in the product description within their campaign are more likely to successfully raise funding. Campaigns that depict founders in these videos are also associated to successful funding (Mamonov & Malaga, 2018).

2.2.2 Crowdfunding Analysis Research Models

An abundance of research and studies have been completed within the field of crowdfunding. Several researches have created analysis models, some of which are empirical logic models which analyze large amount of data from Kickstarter (Janků & Kučerová, 2018), while others are model that can be used to predict crowdfunding outcomes (Fan-Osuala, Zantedeschi & Jank, 2018). Several researches also propose a text mining approach (Gafni et al., 2019), as well as a text analytics framework to evaluate the potential of their proposed projects (Yuan et al., 2016).
2.2.3 Determinants of Funding

Much of the literature within the area of crowdfunding examines a variety of determinants which are related to successful funding. A segment of this literature examines the project launch and maintenance practices. One study (Cordova, Dolci & Gianfrate, 2015) determines that the investment requested by the project founder, the duration of the campaign, its contribution frequency are important determinants in crowdfunding success. Furthermore, a study by Kuppuswamy and Bayus (2013) supports the contribution frequency claim by examining the relationship between project updates and project success, stating that increased project updates are lead to increasing project support, as the updates generate more excitement among backers. Mollick (2014) relates successful campaigns to smaller goals, short campaign durations and the presence of a campaign video. Another study that used rich data from 200,000 projects focuses on the project launch timing and determines a negative outcome for projects that were launched on weekends (Janků & Kučerová, 2018).

Another determinant which has effect on the crowdfunding success is the perception of the venture. A study by Mamonov and Malaga (2018) confirms that ventures which have large corporate clients are more likely to raise funding on crowdfunding platforms when compared to ventures without such clients. Ventures which have previously attracted funding from established angle investors and venture capital firms are also more likely to raise funding (Mamonov & Malaga, 2018). Ventures with disruptive innovations as well as ventures that hold patents were not confirmed to be more likely to attract funding through online equity (Mamonov & Malaga, 2018).

2.2.4 Framing and Crowdfunding

Although crowdfunding has become popular as a new way of fund raising, the majority of projects which are launched within crowdfunding platforms do not achieve their set funding goals within the allocated time (Kuo & Liu, 2014). Thus, the central issue for entrepreneurs who launch a crowdfunding campaign is to attract a relevant audience and convince as many people as possible, to participate in sponsoring the development of the project. Therefore, it is essential to understand what factors the investment behavior of potential backers is based on and how it can be influenced. Past studies have discovered that funders change their original choice depending on whether the question at hand was demonstrated in different (Tversky & Kahneman, 1981). While this has been assessed in other contexts, there is little literature focusing on this situation in the domain of crowdfunding. In fact, Parhankangas and Renko
discovered that many entrepreneurs struggle with determining the relevance of crowdfunding success to methods of delivering the pitch, especially in relation to linguistic style.

2.2.5 Effect of Pitch on Crowdfunding Success

Perhaps the most interesting literature involves the effect of the pitch on crowdfunding success. As one of the subjects which this thesis focuses on, framing is a component of the pitch. Many academics view the crowdfunding message as a pitch, House et al. (2016) comparing it to an elevator pitch; however, outlining that the elevator pitch is applied to communicate with one specific investor, while the crowdfunding pitch focuses on an entire community of funders. House et al. (2016) state that the pitch should be flexible in order to engage the concerns of a variety of audiences. However, a computer aided study by Ishizaki (2016) has contradicting results, demonstrating that a pitch that is written for a specialized community is more likely to be successful than a pitch written for a general audience, as the more specialized pitch contains more technical details and likely demonstrates competence.

Several studies have also examined the content of pitches and their effects on funding success. (Huhtamäki et al., 2015) discovered that successful campaigns are associated with elements such as quotations, second person, directing movement, exposition, forceful, objects, facilitation, academic language framing elements. Negative emotion, character types, character traits, reasoning, positive values, negative acts, general information, familiar states and synthetic elements were the elements associated with failed pitches (Huhtamäki et al., 2015). In a similar study, (Mitra & Gilbert, 2014) discovered that the presence of liking, social identity, social proof, authority, scarcity and reciprocity within a pitch were all positive predictors for a project to be funded. Pitching a product which is similar to an existing product was also related to successful project funding, while pitching a completely new product or project was related to failure. This study (Mitra & Gilbert, 2014) also outlines the top 100 phrases related to successful funding, and the top 100 phrases related to failure to receive funding.

However, while completely new product forms are related to unsuccessful pitches, a study by (Davis et al., 2017) that involved 102 participants accessing 10 campaigns, perceived product creativity and entrepreneurial passion as positively related to crowdfunding success. In a study by (Gafni et al., 2019), which analyzes 20,000 online business pitches and their results, the researchers tasked themselves with determining whether emphasis on the
entrepreneur or on the venture within the campaign has more effect on the investors and ultimately, on the fundraising success. The result demonstrated that projects which mentioned the entrepreneurs names in the pitches, were in fact associated with higher levels of perceived entrepreneur knowledge and trust, thus relating these pitches to a higher funding success rate (Gafni et al., 2019).

Parhankangas and Renko (2017) claim that the linguistic style of the pitch is an important component. As an empirical analysis of 656 Kickstart campaigns demonstrates the audiences of social campaigns is more likely to fund projects which use linguistic styles, are easier to understand and more relatable. However, no correlation with commercial campaigns is discovered (Parhankangas & Renko, 2017). Parhankangas and Renko (2017) strongly suggest that besides the differences within social and commercial campaigns, it is likely that the linguistic expectations differ among other groups, such as industry clusters, as well.

2.3 Conclusion
Crowdfunding has been established as an attractive way for entrepreneurs to raise funds for their projects. It can be understood as a call through the internet to provide funding in form of donation or in exchange for some form of reward (Belleflamme et al., 2014). However, most of the projects fail to achieve their self-declared funding goals (Kuo & Liu, 2014). Consequently, the central challenge for entrepreneurs is to generate attraction for their project and persuade backers to fund it. For this task, it is crucial to understand what backers base their decision on. Studies have found that interpretation and decision-making changes depending on the way an issue is presented (Tversky & Kahneman, 1981). This way of presenting an issue, framing, might prove as a valuable tool for entrepreneurs to influence the backer’s investment decision-making.

Framing is defined as the way of phrasing a message in a way that implicates a certain meaning towards the recipient (Benford & Snow, 2000). While this has been investigated in other contexts, literature that focuses on this technique in crowdfunding is scarce. A framework that is acknowledged to be a major approach in framing theory and an effective mechanism to categorize rich data (Czernich & Zander, 2010) is the concept of cognitive categories. The framework consists of the framing categories threat, opportunity, novelty and commonality, which can be applied as a short-cut to lead to certain interpretations.

While most framing literature is concerned with how framing can be applied to convey a message, a discussion around the question which framing approach would be most
effective has evolved (Czernich & Zander, 2010). Established theories advocate that framing of a new concept as response to a threat would be more effective than framing it as an opportunity (Jackson & Dutton, 1988), and presenting a concept as aligned with existing solutions would be more effective than to present it as entirely novel. Following these suggestions, it could be expected that there is a preference for emphasizing threat rather than opportunity in the framing of new concepts.

However, alternative theories which contradict the previously stated expectations have emerged (Chattopadhyay et al., 2001; Jackson & Dutton, 1988). Thus, there is no consensus within the literature in relation to the most effective cognitive categories. An empirical study on framing of business concepts identified opportunity and threat framing to be most dominant (Czernich & Zander, 2010), but did not distinguish a single most effective way of framing.

In our study we explore how framing is applied in the crowdfunding domain. We will apply the framework of the cognitive categories of opportunity, threat, novelty and commonality, as it is acknowledged in literature and has proven to be an effective mechanism for the sorting of complex qualitative data.
3 Methodology

In this section, we describe and motivate our choice of research methodology, data specifics, data collection and analysis process.

3.1 Quantitative and Qualitative Approaches

In order to identify the best approach that could be used to explore framing within the crowdfunding pitches, both quantitative and qualitative approaches were considered. At first, a quantitative approach was explored, as it allows to focus on numbers and behaviours, to have a structured approach and use available hard and reliable data (Bryman & Bell, 2015). This approach is necessary to identify a correlation between the framing within the pitches used by companies on Kickstarter and the funding they received. As data is easily available on multiple crowdfunding platforms, a numerical approach would be feasible; it would also be possible to easily analyze the collected data. Previous thesis studies focusing on framing in funding of art projects (Conte, 2015), and passion within framing of crowdfunding (Waij, 2018) have chosen this approach.

However, the quantitative approach offers some disadvantages as well. Bryman and Bell (2015) list the need to have discrete dimension, mutually exclusive categories, clarity about the unit of analysis and the necessity to establish all categories of content prior to coding as possible pitfalls of the quantitative approach. Even though there is already some research within the field of framing within crowdfunding, there is not enough research to establish mutually exclusive categories and discrete dimensions of the framing content. More research is required in order to analyze and categorize the content of the pitches. Another disadvantage of the quantitative approach is the limited information that can be extracted from the findings. While the framing of the pitches can be easily coded and converted into empirical data by the use of various word analysis software such as NVivo, the data may not offer a high level of insight, as not all context is considered. Franzosi (1995) suggest that a computer-assisted content analysis is efficient, however also advises that it is not suitable for more complex thematic analysis. As the crowdfunding pitches are quite sophisticated documents, often containing a variety of textual and visual content, a computer-assisted approach may limit the findings, neglecting other important factors. Coding the document for specific words or phrases may fail to encompass the contextual effect of other content within a pitch.
After analyzing the qualitative approach, it became evident that this methodology would be much more appropriate for the study. A qualitative approach, is explorative in nature and offers the ability to focus on rich, deep data and allows for contextual understanding and micro analysis (Bryman & Bell, 2015). This would allow us to analyze the content past the surface elements and to encompass other characteristics of the content in order to generate richer insight. The qualitative approach is also more suitable for research which focuses on words and meaning (Bryman & Bell, 2015). As we are examining framing within pitches, both of these elements are present and are integral to the research. A qualitative approach also offers an exploratory approach to research, instead of a generalization, allowing to generate more insight from the content analyzed (Bryman & Bell, 2015).

The qualitative approach also has several limitations. The approach is often described as too subjective, not transparent, difficult to replicate and to generalize in order to compare to other studies (Bryman & Bell, 2015). In order to make the work more transparent and easier to replicate, we will note as many thoughts and realizations as possible. The use of the framing orientation theory proposed by Czernich and Zander (2010) will make the research less subjective and easier to generalize, as it will relate to an already existing logic.

3.2 Research Approach

A qualitative research approach offers several methods that can be applied, including qualitative interviews, focus groups, ethnography/participant observations and document analysis (Bryman & Bell, 2015). Document analysis is most fitting for this research, compared to the other options, as the data that will be analyzed is within documents which are sourced from Kickstarter.com, a crowdfunding platform. It is logical to focus solely on these documents as they are the best source of data to analyze framing technique in pitches; Atkinson and Coffey (2004) suggest that “documents should be viewed as a distinct level of reality in their own right”, and in this case, the documents do in fact offer a framing-focused reality of their own.

Having selected a qualitative approach, a choice between inductive, deductive or adductive methods also had to be made. While an inductive approach seeks to draw a theory from within the date, a deductive approach involves the use of an existing theory to formulate the research focus and data analysis aspects; an abductive approach involves a combination the two previously mentioned approaches (Saunders, Lewis & Thornhill, 2009). In order to
limit the focus of the research, we apply variables introduced by Czernich and Zander's (2010). The variables outlined by Czernich and Zander (2010) are different framing orientations – threat, opportunity, commonality and novelty. Being one of the main current frameworks within the research field of framing, as well as a convenient tool to categorize framing within the analysed data, the cognitive framing categories outlined by Czernich and Zander (2010) are crucial to our study.

Saunders et al. (2009) recommend identifying the main variables and the presumed relationships between the variables when conducting a deductive study in which an existent theory is applied to a new study. We follow this recommendation by adopting the cognitive framing categories framework. However, in order to allow for an extensive and rich findings spectrum, it was not within our interest to limit the research to just framing variables analysis, and thus we realized that an abductive approach would be more appropriate for our study. Applying an abductive approach would promote discovery of information beyond the scope identified by the existent literature and could possibly lead to new findings (Saunders et al., 2009). Adopting an abductive approach was also instrumental to maintaining holistic approach towards the data analysis, which would promote the observation of the contextual findings and thus potentially generate more rich and varied data.

It is important to note that the crowdfunding campaign content analysis is approached with a rhetorical perspective. Bryman and Bell (2015) describe rhetorical analysis as an approach which explores the persuasive variables of language which help generate resonance within a group. We are mindful of rhetoric within our study, as in order to analyze and categorize the framing within our data sample, we must recognize the persuasive nature of the variables.

### 3.3 Data Description

In order to explore framing within crowdfunding campaigns of technology firms, a data source had to be selected. We considered several crowdfunding platforms, including Kickstarter, Indiegogo, Crowdrise, Gofundme and Patreon. Kickstarter appeared to be the most appropriate for our study, as it contained a tech products section, was for-profit and was one of the largest crowdfunding platforms in the world, having 442,269 projects as of April 21st, 2019. A platform that conforms to the mentioned criteria was crucial in order to proceed with our study. A tech products section within a crowdfunding platform was required in order to explore tech companies. The campaigns had to be for-profit, as in most cases technology
companies seek to profit from the venture. Finally, a large data set was required in order to select specific types of campaigns to study (see more regarding types of campaigns selected in 3.4 Data Sample Selection). As Kickstarter conformed to these criteria, we decided to retrieve data from this platform for our study.

We chose to focus on the technology projects campaigns specifically, as the technology category has a funding success rate of only 20.32%, which is by far the lowest success rate of all categories on Kickstarter as of April 2019. As this category is highly competitive, we speculate that the content we explore will be of high quality and thus would generate a significant number of findings related to framing strategies. As well, due to the high level of competition, our findings will be especially valuable for the entrepreneurs interested in creating technology project crowdfunding campaigns.

A crowdfunding campaign typically includes a video pitch and an extensive description of what the project is about. A campaign can be a product or a service; however, as we are focusing the technology category, we expect to find mostly products. The video pitch is an important artifact of the pitch, and the entrepreneurs spend a significant amount of time and effort to show their project from the best angle possible. The product descriptions are written in shorter blocks of text, usually enriched with graphics that illustrate the product features and photos that show the product in a context.

3.4 Data Sample Selection

Our sample encompasses two brackets of completed technology company crowdfunding campaigns, focusing on campaigns which have either greatly over or underachieved their funding goals. In this study, we will refer to the overachieved funding campaigns bracket as successful campaigns and to the underachieved funding campaigns bracket as failed campaigns. The successful campaigns bracket consists of projects which had an initial funding goal of $10,000 to $100,000 and raised over $1,000,000. Limiting all the available technology projects with the mentioned restrictions, the sample results with 84 extremely successfully funded projects. The failed campaigns bracket consists of projects which had an initial funding goal greater than $1,000,000 and raised less than $1,000. Application of these restrictions results in 290 extremely unsuccessful project.

Selecting campaigns with opposite extreme performance ranges was necessary in order to explore the effects of framing on the success of the crowdfunding campaigns. By determining and distinguishing the characteristics of the components in both successful and
failed campaigns, we aim to determine which types of framing as well as other interesting findings are most associated with successful and failed campaigns.

Determining of an appropriate sample size is a frequent issue among researchers (Bryman & Bell, 2015) and often depends on the richness of findings and conclusions which can be drawn from the collected data. In our case, each campaign provided an overwhelming amount of data, consisting in some campaigns of up to 57 pages of textual and visual content. As saturation is a widely accepted principle applied to determine the sample size (Saunders et al., 2008), we adopted this approach by proceeding to collect and assessing data until a wide spectrum of content was discovered and no further data collection was necessary.

Initially, we proceeded with analyzing 20 campaigns, 10 from the successful group and 10 from the failed group. The content had some variety; thus, we proceed to examine more data. As the data collection process continued, some forms of saturation, such as the level of campaign content quality, campaign size, as well as similar framing among campaigns appeared. The product ideas began repeating themselves, as there were several cameras, apps, smart watches and smartphones discovered. As the saturation was evident and we are able to form conclusions from the collected findings, we determined that our sample size was sufficient. In total, we analyzed 47 Kickstarter campaigns, 24 successful and 23 failed.

3.5 Data Collection
The data required for this study was collected directly from the crowdfunding campaign’s project page within Kickstarter. As the platform is constantly registering new crowdfunding campaigns, a concern that the data sample with the specified filter settings would change emerged (see 3.4 Data Sample Selection for filter settings). In order to avoid this risk, the selected campaigns were documented by the creation of PDF files (see Appendix 2, Appendix 3 and Appendix 4). All the data was collected between April 29, 2019 and May 5, 2019.

3.6 Data Coding
In order to extract the data from crowdfunding campaigns, a coding approach is applied as a tool to categorize the data and summarize the meaning of the findings. Coding is a process of identifying a section of text with a focus on a certain meaning and writing a short summary of the mentioned content. (Saunders et al., 2009) The mentioned summary can thereafter serve
as a headline or label and can later be abstracted and refined to form codes (Bryman & Bell, 2015). It is important to note that coding should not just be seen as a pure method to fragment and retrieve text, but as (Coffey & Atkinson, 1996) emphasize, coding in combination with other codes can identify broader phenomena (Bryman & Bell, 2015). In the case of document analysis, coding is especially important as it will result in categorized and organized data, which will allow us to recognize the entire spectrum of the qualitative findings. (Saunders et al., 2009)

The three types of coding which were considered for this study were open, axial and selective (Strauss & Corbin, 1990). Open coding is described as a process to break down, evaluate, conceptualize and categorize data (Strauss & Corbin, 1990). This type of coding produces concepts, which are later grouped to form categories. The second approach, axial coding, is a process that simply employs open coding first and then combines the resulting data in new ways, linking different categories. This is achieved through connecting codes to contexts, to consequences, to patterns of interaction, and causes. (Saunders et al., 2009) The third type of coding, selective coding, focuses on identifying a core category, central issue or focus. The identified category is then systematically related to other, broader categories, while validating the relationships between them, and filling in categories that need further refinement and development (Saunders et al., 2009). As we do not aim to code our collected data according to the four framing categories only, but also strive to explore further themes and factors that help us determine the relationship between framing and funding success, axial coding would be the most appropriate method.

After selecting the appropriate type of coding, we had to then choose whether the coding would be executed manually and with the use of the software. Thus, the application of a data collection software, NVivo, was briefly considered. This particular software provides a solution for efficient coding of quantitative research settings where large sample sizes have to be code. However, after a pilot run with the use of NVivo, where we tried to identify framing-related keywords in Kickstarter campaigns, it became evident that the tool is not suitable to qualitatively assess natural language, along with contextual content. Human written language is natural and other than numbers or artificial programming languages, does not follow strict rules. However, such rules are required for automated analysis. Manual coding appeared to be more suitable for contextual data collection and qualitative categorization of prose. Saunders et al. (2009) share this opinion, stating that while the use of analysis software for quantitative data is almost universal, the use of it for qualitative data is not so widely practiced and the associated is not always available. Another challenge specific
to crowdfunding pitches is that they usually include content in various forms of media, such as text, images and videos. Applying a data collection software would prevent the collection of this contextual data as well. In order to accommodate a more accurate identification of framing as well as capture the data found within the contextual content, a manual data collection approach emerged as the most optimal option.

3.7 Data Analysis

Based on the suggestions of (Bryman & Bell, 2015), we designed a common coding scheme to ensure inter-coder reliability and to structure our work (see Table 1). To simplify the categorization of findings into the cognitive framing categories, we drew from the elaborations on cognitive labels from Czernich and Zanders (Czernich & Zander, 2010) and created framing based coding variables. Thus, we could quickly match prose of the Kickstarter campaigns to these variables and consequently to their respective coding categories. As well, we expanded the coding analysis scheme by further variables which we understood as helpful for the specific framing analysis of crowdfunding campaigns. Beyond the coding of framing related content, we also observe the general framing impression of the main video pitch, visuals within the campaign, information about the company and team, timeline and other attention-grabbing findings. As additional quantitative indicators we note the number of pages of the project description, updates and frequently asked questions (FAQs).

In order to be able to compare and analyze the data collected from the crowdfunding campaigns with the use of the previously described coding scheme, several data tables were created (see Appendix 2, 3 and 4). We first created a list of all campaigns analyzed, recording their product type and launch year. We then added all the variables listed with the coding scheme and input the data from each of the campaigns into the table (see Appendix 2 and Appendix 3). A similar table was created to categorize and analyze the framing used within the campaigns (see Appendix 4). These data tables were valuable as they allowed for a convenient observation and analysis of the similarities, differences and trends within the campaigns’ components.
### Table 1: Coding template with coding categories and variables

<table>
<thead>
<tr>
<th>Coding category</th>
<th>Coding variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Novelty</strong></td>
<td>Ground-breaking innovation</td>
</tr>
<tr>
<td></td>
<td>Novel practices and experiences</td>
</tr>
<tr>
<td><strong>Commonality</strong></td>
<td>Aligned with established practices</td>
</tr>
<tr>
<td><strong>Threat</strong></td>
<td>Negative outcomes</td>
</tr>
<tr>
<td></td>
<td>Loss</td>
</tr>
<tr>
<td></td>
<td>Uncontrollable situations</td>
</tr>
<tr>
<td><strong>Opportunity</strong></td>
<td>Positive Outcomes</td>
</tr>
<tr>
<td></td>
<td>Gain</td>
</tr>
<tr>
<td></td>
<td>Controllable situations</td>
</tr>
<tr>
<td><strong>Additional</strong></td>
<td>Main Video pitch</td>
</tr>
<tr>
<td></td>
<td>Visuals</td>
</tr>
<tr>
<td></td>
<td>Number of Pages</td>
</tr>
<tr>
<td></td>
<td>Info about company</td>
</tr>
<tr>
<td></td>
<td>Team Info</td>
</tr>
<tr>
<td></td>
<td>Schedule</td>
</tr>
<tr>
<td></td>
<td>Updates</td>
</tr>
<tr>
<td></td>
<td>FAQ</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
</tbody>
</table>

#### 3.8 Critical review of methods

The credibility of research findings is an issue that has been discussed in social sciences for years (Saunders et al., 2009). The central question that the discussion has been revolving around is whether a researcher can know if the evidence he finds and the conclusions he draws from them can stand up to all scrutiny (Raimond, 1993). Since there is no distinct correct answer to a qualitative research question, the best course of action a researcher can choose is to reduce the possibility of drawing flawed conclusions (Saunders et al., 2009). Consequently, two aspects of research design that need special attention are reliability and validity (Saunders et al., 2009).

#### 3.8.1 Reliability

The aspect of reliability refers to the extent to which the employed data collection techniques or analysis procedures yield consistent findings (Saunders et al., 2009). Reliability can be distinguished into internal and external reliability, referring to consistency within the study and to the extent to which an independent second study could replicate the results of the present study.
A means to ensure internal reliability that is suggested by literature is to have more
than one researcher perform the study (Saunders et al., 2009). Having two researchers instead
of only one involves major decisions to be agreed upon by both researchers, which may lead
to critical reflection and constructive discussions. During our research we experienced this
effect of conducting a study with two researchers first hand, for example when we had to
discuss an outstanding decision with each other and needed to justify the appropriate choice.
Throughout our thesis, we made an effort to maintain the transparency of our decision by
elaborating which approaches we considered and what led us to prefer one option over
another. Beyond the methodological approach and theoretical discussions, we realized that
especially the coding method within our analysis process could have a major impact on the
reliability of our study. To achieve a high degree of reliability in the coding findings that we
were to generate, we employed a common coding scheme (see Table 1 & Appendix 1) that
enabled us to categorize text passages in a highly structured way. During all steps of the
study, but in particular during coding, we were in frequent exchange with each other to keep
our analysis processes aligned. Consequently, we are confident to have achieved a high level
of internal reliability in our study.

The second perspective of reliability, external reliability, is scrutinizing whether the
data collection and analysis methods used in a study would yield the same results if a similar
second study was to replicate the study.

For the analysis of framing present in the selected crowdfunding pitches, we applied
the framework of cognitive categories (Czernich & Zander, 2010) using coding. Through
using the previously mentioned coding scheme (see Table 1 & Appendix 1) we structured our
coding process so that categorizing text passages to the themes of cognitive framing
categories, and beyond these, since we were aware of emerging themes, became more
organized and relatable. A criticism of the method of coding might be however, that through
taking fragments of text out of the context they were stated in, important information which
influences how the fragment should be interpreted might be overlooked (Bryman & Bell,
2015). However, coding is a widely accepted and popular method for assessment of
qualitative data in the research community (Bryman & Bell, 2015). Thus, we tried to be
aware of the pitfall of losing meaning through fragmentation and considered the context of a
statement we were to code, before we related it to the coding categories.

Beyond the previously stated perspectives of reliability, we have to be aware of
several threats that endanger the reliability of our thesis. Robson (2002) defines four critical
threats to reliability as subject error, subject bias, observer bias and observer error. The first
threat, *subject error*, describes mistakes that occur due to external factors that affect the study. Compared to interviews, which can be influenced by time of the interview and way of questioning (Saunders *et al.*, 2009), our data collection process of assessing published crowdfunding campaigns can be considered as robust to external influences. By contrast, *Subject bias*, which describes the risk of a skewed perspective, might well be present. The way and extend of framing in crowdfunding campaigns, could be understood as a bias. As framing, the bias the entrepreneur conveys beyond the informative character of his campaign, is a centric element of our precise research scope, and thus we are well aware of a bias being present in the documents we are analyzing. In order to avoid being influenced by this bias, we setup a structured coding and analysis approach and collected additional quantitative measures. With *observer bias* is meant that researchers are prone to, consciously or unconsciously, understand their data in a certain way so that it supports their hypotheses, instead of critically assessing the matter. Accounting for this, we acknowledged criticisms towards the theoretical framework of framing that we base our work on and were cautious to find evidence for them in our sample. Finally, *observer error* is relating to mistakes researchers can make when interpreting their findings. Related to our thesis, this could occur in the coding process and when drawing conclusions from our coded findings. As stated earlier, we employed a coding template and were in constant exchange when coding the campaigns in our sample. By applying the acknowledged concept of cognitive categories drawn from (Czernich & Zander, 2010) to our framing analysis, we ensured to use a structured and relevant framework.

### 3.8.2 Validity

Validity is referring to whether a research study has been performed using appropriate methods that can yield the answers to the questions the study aims to investigate (Saunders *et al.*, 2009). Another issue that is addressed by validity is the generalization of findings (Saunders *et al.*, 2009).

We experienced saturation when it came to tendencies of certain framing categories and additional variables being present. However, due to the extensive but limited sample size and the qualitative nature of our approach, we have to acknowledge that the generalizability of our study is limited. Nevertheless, as most of the studies that assess framing in crowdfunding campaigns have been of quantitative nature, we believe that a qualitative approach is an appropriate approach to explore the variety of framing on a deeper level.
Coding a sample counting 47 crowdfunding campaigns, we gained detailed insights that are highly relevant for practitioners and to the qualitative understand in framing research (see 6.2 Theoretical and Practical Implications).

Applying an established theoretical framework and using a structured coding approach, we tried to minimize interferences towards reliability and validity from the beginning of our study. To make our decisions and the individual stages of our research process comprehensible, we elaborated the steps we performed in detail. Thus, although there may be particular limitations towards generalizability and external reliability of coding, we are confident that we applied appropriate methods to generated reliable and valid results to the extent that our research setting allows.
4 Findings

In this section we present our findings regarding the framing orientation discovered within crowdfunding campaigns and their effects on project funding success. We first present the findings that emerged from our data collection, which includes exploration of the presence and the effects of various framing orientations on crowdfunding campaigns. We analyze framing in both successful and failed campaigns in order to explore the difference. We then proceed with presenting the additional findings, which emerged during our framing centered coding process due to the use of an abductive approach. The additional findings include exploration of factors that we determined to be important for crowdfunding success during our exploration of campaigns’ components.

<table>
<thead>
<tr>
<th>Successful Campaigns</th>
<th>Failed Campaigns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Campaign Number</strong></td>
<td><strong>Product Type</strong></td>
</tr>
<tr>
<td>1</td>
<td>Touchscreen</td>
</tr>
<tr>
<td>2</td>
<td>Drone/Camera</td>
</tr>
<tr>
<td>3</td>
<td>Projector</td>
</tr>
<tr>
<td>4</td>
<td>Pet Product</td>
</tr>
<tr>
<td>5</td>
<td>Camera</td>
</tr>
<tr>
<td>6</td>
<td>Smartphone</td>
</tr>
<tr>
<td>7</td>
<td>Security Camera</td>
</tr>
<tr>
<td>8</td>
<td>Beauty Tech Product</td>
</tr>
<tr>
<td>9</td>
<td>Hi-tech vessel</td>
</tr>
<tr>
<td>10</td>
<td>CNC robot</td>
</tr>
<tr>
<td>11</td>
<td>Cable Camera</td>
</tr>
<tr>
<td>12</td>
<td>Wireless Headphones</td>
</tr>
<tr>
<td>13</td>
<td>Hi-tech Fire pit</td>
</tr>
<tr>
<td>14</td>
<td>Toy Airplane/Drone</td>
</tr>
<tr>
<td>15</td>
<td>Hi-tech children's toy</td>
</tr>
<tr>
<td>16</td>
<td>Engraving Laser</td>
</tr>
<tr>
<td>17</td>
<td>Smart Watch</td>
</tr>
<tr>
<td>18</td>
<td>3D Printer</td>
</tr>
<tr>
<td>19</td>
<td>Wireless Headphones</td>
</tr>
<tr>
<td>20</td>
<td>Camera Accessory</td>
</tr>
<tr>
<td>21</td>
<td>Smartphone</td>
</tr>
<tr>
<td>22</td>
<td>Ergonomic Tool</td>
</tr>
<tr>
<td>23</td>
<td>Smart Watch</td>
</tr>
<tr>
<td>24</td>
<td>Wireless Headphones</td>
</tr>
</tbody>
</table>

Table 2: Summary of campaigns contained in the research sample
Our research sample, which includes 47 Kickstarter crowdfunding tech projects launched between 2013 and 2019, is presented above in Table 2 (refer to Appendix 2 & Appendix 3 for detailed version).

4.1 Framing Findings
The framing findings consist of discoveries from within textual content, as well as form within the visual and graphic content of the campaigns. Findings from these two types of contents are presented in two separate sections below.

4.1.1 Framing of textual contents
We have coded and categorized the results of our qualitative research according to Czernich & Zander’s (2010) cognitive framing categories of opportunity, threat, novelty and commonality. Specifically, we have allocated them to the more descriptive themes which Czernich & Zander (2010) provide for all categories. In Table 3 (refer to Appendix 4 for detailed version) we provide an aggregated overview of our findings. We approached this analysis with the use of the cognitive framing categories and evaluated what themes were present within each campaign. If a theme of a certain framing category was discovered, we would count the theme itself and the corresponding category as present.

4.1.1.1 Novelty
Novelty was one of the most popular framing approaches in our sample, being applied within 88% of successful campaigns and 70% of failed campaigns within our sample (see Table 3). While the main themes of novelty, namely ‘Ground-breaking innovation’ and ‘Novel practices and experiences’, were particularly common within the successful campaigns, the failed campaigns contained less emphasis on radical innovation.

Successful campaigns often contain ground-breaking innovation framing and support these through positive wording. The team behind an extremely successful project, Campaign #2, Hover 2, for example writes that they are “excited” to “unveil the next generation of autonomous drones, the Hover 2, reinvented with groundbreaking A.I. technology.” Through the emotional and dramatic phrasing, they convey a positive and novel connotation. Failed campaigns attempt to convey ground-breaking innovation as well, but less frequently and in a less elaborated and less credible way. One example of a failed campaign that tries to convey novelty framing is campaign #34, Ridar Systems Motorcycle App that introduces
itself as “an innovative and passive software application” with the purpose to enhance “cycle safety by making drivers aware of a rider’s proximity.” The campaign contains claims to use technology which “does push the envelope of what mobile apps and smartphones are currently capable of doing” but fails to convince that this technology would be unique and innovative. The product idea of avoiding motorcycle accidents by monitoring the distance of motorcycles to other road users is neither new, as many cars already have built in sensors that warn when objects come to close, nor can the campaign credibly argue that their mobile broadband based concept actually works.

<table>
<thead>
<tr>
<th>Extend to which framing categories and themes are present</th>
<th>Successful Campaigns (24)</th>
<th>Failed Campaigns (23)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of campaigns</td>
<td>% of campaigns</td>
</tr>
<tr>
<td>Novelty</td>
<td>21</td>
<td>88%</td>
</tr>
<tr>
<td>Ground-breaking innovation</td>
<td>18</td>
<td>75%</td>
</tr>
<tr>
<td>Novel practices and experiences</td>
<td>18</td>
<td>75%</td>
</tr>
<tr>
<td>Commonality</td>
<td>19</td>
<td>79%</td>
</tr>
<tr>
<td>Aligned with established practices</td>
<td>19</td>
<td>79%</td>
</tr>
<tr>
<td>Threat</td>
<td>9</td>
<td>38%</td>
</tr>
<tr>
<td>Negative outcomes</td>
<td>5</td>
<td>21%</td>
</tr>
<tr>
<td>Loss</td>
<td>5</td>
<td>21%</td>
</tr>
<tr>
<td>Uncontrollable situations</td>
<td>6</td>
<td>25%</td>
</tr>
<tr>
<td>Opportunity</td>
<td>24</td>
<td>100%</td>
</tr>
<tr>
<td>Positive Outcomes</td>
<td>18</td>
<td>75%</td>
</tr>
<tr>
<td>Gain</td>
<td>19</td>
<td>79%</td>
</tr>
<tr>
<td>Controllable situations</td>
<td>20</td>
<td>83%</td>
</tr>
</tbody>
</table>

Table 3: Presence of cognitive framing categories within campaigns

An unsophisticated example of expression of novelty is discovered in sample #26, Net Sky that simply states the following: “It is all connected to the cloud / Internet so you can access your content anywhere any time.” The sole idea of the project seems to be to create an operating system for tablets that heavily focusses on cloud integration. As the products of huge established players such as Google, Apple and Microsoft offer cloud features as years, cloud integration is no ground-breaking feature for an operating system. However, the author does not attempt to justify what he assumes to be the solutions unique selling point. Instead
he claims that “You will never need to use another device ever again” without elaborating it further.

The second theme within novelty, novel practices and experiences, focusses less on radical new innovations but on the combination of technology in a revolutionary way. In successful campaigns, framing of novel practices and experiences is commonly discovered, for example in campaign #23, ZeTime that states that it is “the world’s first hybrid smartwatch combining mechanical hands with a full round color touchscreen.” The novel practice that is promoted here is that the watch “blends the classic design of a traditional timepiece with the most advanced features of a smartwatch.”

Failed campaigns use the framing of novel practices and experiences as well, but again, weave it in less seamlessly and less professional than the successful campaigns do. An example is sample #44, Data Stocks, which states: “The game-changer is how these technologies are used together to your benefit. They have never been used to give people control of the data they produce nor for data rentals.” While the content is adequate, the linguistics demonstrate some weaknesses. Not only does the statement contain a mistake which is easily noticed (“have have”), but also the unusual alteration “never... nor” instead of the phrase “neither... nor” These mistakes illustrate lack of thoroughness and possibly lessen the credibility of the campaign towards potential backers.

4.1.1.2 Commonality

The opposite of novelty, commonality, is the second most popular framing direction for successful campaigns. Commonality is employed by 79% of successful but only 35% of failed campaigns within our sample (see Table 3). The connotation of commonality conveys that a project or product is aligned with already established practices, and focuses on the improvement of existing solutions.

Successful campaigns often reference to pain points of existing solutions and then elaborate what their product does better to address those issues. Campaign #4, Footloose for example, leads in with the issue that “Existing contraptions have failed what they’re built for. Most of them break down within a year of purchase.” They then present their solution “that actually works” and that “blind spots are non-existent for”

Failed campaigns apply commonality less frequent and vary to great extent when it comes to how well they do so. One more elaborated attempt is campaign #36, Mesh that states to use “The same technology that helps create anonymity for Tor networks, enable
wireless printing at home […]” and “will be used to allow anyone with a device with WiFi to join and support the new, decentralized, Mesh Web.” A less sophisticated example is sample #47, iSalt which explains the concept “Coins are displayed in augmented reality and can be collected by capturing an image and dragging and dropping the coin in a bucket.” And then draws a bold comparison between Pokémon GO, one of the most used and profitable mobile games in 2016, and its own solution and “iSalt is optically similar to Pokemon Go except with coins and the coast instead of Pokemon.”

4.1.1.3 Threat

Threat was the least popular way of framing, applied by only 38% of successful and 22% of failed campaigns (see Table 3). The themes of negative outcomes, loss and uncontrollable situations were equally strong in the successful campaigns. However, the failed campaigns made slightly less emphasis on uncontrollable situations theme compared to successful campaigns. Furthermore, only one failed campaign used the theme of loss.

Among successful campaigns, negative outcomes were expressed to illustrate current pain points and to increase the perceived need for action. Campaign #22, UPRIGHT GO employs this, stating the issue and then illustrating the negative consequences “Screen slouching is one of the main prices we pay for our modern lifestyle. Poor posture doesn’t just look bad, it has very real negative effects on the body and mind, causing back pain and diminishing confidence.” Unsuccessful campaigns use the framing of negative outcome to a similar extent, for example in Sample #37, Sava Raza, which describes our society as a “throw away society.” where “Two billion razors are thrown away in landfills every year.”

The author continues to paint this picture by including his own behavior “Yes, I am guilty of wasting razors, also. I would use a razor for a few days until it became dull, no longer sharp and I would throw it away.”

Within threat, the theme of loss is used to express what loss drawbacks of current situations mean and how the solution can solve this issue. Campaign #10, Goliath CNC is a great example of this: “Traditional CNC machines are large, bulky, and stationary tools with physical limitations that hinder the creative capacity of many creators and makers whose ideas are larger than the small workspaces they are confined to.”

Uncontrollable situations are another theme of threat framing, and contribute to generate pressure for action by conveying an intimidating situation of a growing problem. The successfully funded campaign #9, LARQ Bottle focuses on solving the increasing amounts of plastic waste from water bottles, drawing the picture of rapidly growing landfills.
"The results are appalling with more than a million bottles every minute being added to landfills around the world. That’s over 480 billion annually and climbing - enough plastic to wrap around the earth’s equator more than twice. Every. Year."

Failed campaigns, such as sample #41, *Optical Computing Data Center* attempt to use threat framing as well, but fail in efficiently doing so due to the lack of convincing background information and linguistic correctness “Despite its apparent simplicity, it's pretty tough business and it involves many difficulties. In recent years, these difficulties have increased, because it is very sharply increased volumes of produced, processed, and transmitted data.”

4.1.1.4 Opportunity

Opportunity was present in each of the assessed 24 successful campaigns, but in only two thirds of the failed campaigns (see Table 3). The themes of positive outcomes, gain and controllable situations, were almost equally strong in the successful campaigns. While the failed campaigns made much less use of opportunity framing, positive outcomes and gains were equally present. Controllable situations however, were conveyed by only one third of the failed campaigns.

Among successful campaigns there was a frequent emphasis on positive outcomes concerning either product specifics or the use of the product, expressed through the use of positive adjectives. Sample #12, *EOZ Air* for example, highlighted the high-class sounds experience and specifics their earphones deliver “The EOZ Air provides a top-shelf sound experience characterized by powerful bass, and super clear and crispy mid-highs.”

Campaign #41, *Optical Computing Data Center* made an attempt to highlight the positive outcome of using their product, but failed on the linguistic level through a double negation “No other equipment, other than our, is not able so quickly and effectively to grind large volumes of data.”

In our sample, the theme of gain is applied to communicate the improvement of processes or product specific features. Out of the successful campaigns, #24, *Mindset* uses the theme of gain to convey to the audience that through the use of their earphones, they could improve their level of focus and become their most productive selves “Become your most productive self with Mindset: EEG headphones that coach you to reach deeper levels of focus.”

Highlighting the benefits their adjustable binding system offers for snowboarders, campaign #38, *QUICK STANCE* illustrates that some of the failed campaigns can employ the
theme of gain in a proper way as well “Our slightly elevated base increases carving agility and reduces toe and heel drag. [...] Quick Stance reduces fatigue and leg torque by allowing instant stance adjustments anytime a boarder wants.”

The theme of controllable situations is used to convey a feeling of security and peace of mind when confronted with a problematic situation. In the successful campaigns, we discovered campaign #20, Arsenal, the intelligent camera assistant expressing that “Like your own personal photography assistant” the product “lets you focus on the parts of photography you love while it takes care of the rest.” The campaign conveys, that through the camera assistant who simplifies of the tricky settings, photography is being made a purely enjoyable process. Sample #17, Ticwatch S & E adopts a similar approach to create the feeling of a controllable situations, using key phrases such as “With Ticwatch S & E, you can control everything from your wrist” and “so you don't have to break a sweat”.

The unsuccessful campaigns demonstrate solid framing of controllable situations as well. Campaign #27, Grade conveys a sense of security and peace of mind “The algorithms that run Grade will filter out fraudulent comments, so you can place your full confidence in anything you read on the app, knowing that we aggressively take care of astroturfing and other issues that plague online platforms.”

4.1.2 Framing of video and graphical content
Beyond the framing analysis of text, we have also evaluated the conveyed framing of embedded video and graphical content of the crowdfunding campaigns (see findings in Table 4 below). The video pitches and graphics embedded within kickstart campaigns serve as an additional source of information for potential backers, along with the project descriptions. Thus, visual media such as videos and graphics represent a valuable tool for entrepreneurs to generate attention and attract backers for their projects. As we outlined in our literature review, a study by Mamonov and Malaga (2018) discovered that projects which embed videos in their project description are more successful in fund raising. Mamonov and Malaga (2018) further state that campaigns which depict their discoverers within the videos included in campaigns are also associated with successful fund raising. Thus, we can assume that the videos are subject to framing.

As videos and graphics contain unstructured data, it is hard to assess them in a structured way. Conte (2015) performs framing analysis of videos by transcribing the spoken words into text. While framing can certainly be determined from transcribed text, framing
which is conveyed non-verbally would not be observed when using this approach. Thus, we employed a holistic assessment of the video and graphic contents, taking the spoken words as well as the creative way of presentation into consideration. The video pitch by Campaign #17 Ticwatch S & E for example, does not contain any words within the audio, however still manages to convey opportunity and novelty framing. In the video, users are depicted doing sports, cooking or working, all while using the product, a smart watch in this case, to accomplish some other tasks. This outlines the gains possible from the use of the product as well as the novelty of the marketed product.

Not all campaigns in our sample included a video pitch. Out of the successful campaigns, only one campaign did not have a video pitch, however out of the failed campaigns, as many as five campaigns did not have a video pitch. All successful campaigns included graphics; however five of the failed campaigns did not. In some cases, we did not discover any presence of framing in videos or graphics at all, for example when only technical specifications were illustrated. In most cases however, framing was present. The campaigns which worked with at least one of the two media types and apply framing, mainly convey opportunity and novelty, and rarely threat or commonality (see Table 4). These combinations of framing categories correspond with our findings from the analysis of textual contents, which we presented in the section before.

The spectrum of framing and its creative presentation within campaigns which we discovered is extensive. Especially within the video components of the campaigns, entrepreneurs utilized various methods to present their products, sometimes using comedic elements or other unusual approaches. A few notable examples are elaborated below.

A successfully funded example for the expression of threat and opportunity is the video pitch of sample #8 FOREO UFO the video begins with an apocalyptical setting of a city, with lightning illuminating the dark sky. The narrator tells that a “face mask epidemy” plagued the earth and that women were trapped under face masks. Then, futuristic saviors appear with a spaceship, presenting the solution, the UFO facemask. Here, traditional facemasks are presented as inconvenient to use and yielding unsatisfying results, in a comedic exaggerating way. The shiny product is the savior from this “epidemy” and promises easy use and superior results.
### Successful campaigns

<table>
<thead>
<tr>
<th>Campaign Number</th>
<th>Primary Framing within Video Pitch</th>
<th>Primary Framing within Graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Novelty</td>
<td>Opportunity</td>
</tr>
<tr>
<td>2</td>
<td>Novelty</td>
<td>Opportunity</td>
</tr>
<tr>
<td>3</td>
<td>Commonality</td>
<td>Opportunity</td>
</tr>
<tr>
<td>4</td>
<td>Novelty</td>
<td>Opportunity</td>
</tr>
<tr>
<td>5</td>
<td>Novelty</td>
<td>Novelty</td>
</tr>
<tr>
<td>6</td>
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</tr>
<tr>
<td>7</td>
<td>X</td>
<td>Opportunity</td>
</tr>
<tr>
<td>8</td>
<td>Threat/Opportunity</td>
<td>Opportunity</td>
</tr>
<tr>
<td>9</td>
<td>Opportunity</td>
<td>Opportunity</td>
</tr>
<tr>
<td>10</td>
<td>Opportunity</td>
<td>Opportunity</td>
</tr>
<tr>
<td>11</td>
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<tr>
<td>12</td>
<td>Novelty</td>
<td>Opportunity</td>
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<td>13</td>
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</tr>
<tr>
<td>14</td>
<td>Novelty/Commonality</td>
<td>Opportunity</td>
</tr>
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<td>15</td>
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</tr>
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### Failed campaigns

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</tr>
<tr>
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</tr>
<tr>
<td>47</td>
<td>X</td>
<td>None Discovered</td>
</tr>
</tbody>
</table>

*Table 4: Framing discovered within video pitches and graphics*

The video pitch of the successfully funded campaign #22, *UPRIGHT GO* conveys opportunity and is created similar to a documentary. In humoristic style, the video suggests to observe the species of "screen slouchers" that sit in bad postures at their office desks. The product is intended to help them to have a healthier posture and be more confident. This aspect of gain of confidence and becoming more attractive though using the product is especially emphasized, when a flirt attempt of one male “screen sloucher” is first deflected by a female. After using the product, the “screen sloucher” becomes a more confident person, succeeding in various aspects of his life.
The video of the failed campaign #26 Net Sky might be understood as an attempt of demonstrating an increase in opportunities when using the operations system, which thus be categorized to the framing category of opportunity. In the video pitch, without further introduction or elaboration, fast, electronic music plays while app icons and program demonstrations are illustrated in varied colors and a in a fast-paced manner. This likely hints to the many options the operating systems provides, yet the intended message remains unclear.

We discovered that the campaigns in our sample, the successful as well as the failed campaigns within the textual and visual content, all apply framing to at least some extent. The opportunity and novelty cognitive framing categories are applied the most within the campaigns, and others, while commonality and threat are less frequently used. We also discovered that the successful campaigns in our sample apply framing more frequently when compared to failed campaigns, within all categories of framing. Beyond these framing related findings, during the coding process, we discovered additional variables, which were not necessarily corresponding to the framing categories, however were distinctive to us as they seemed to influence our perception of the crowdfunding campaign.

4.2 Additional Findings

As an abductive approach was applied, we were mindful of the contextual content within the campaigns. This content often did not include any framing categories described by Czernich and Zander (2010). Nevertheless, the findings, which were extracted from this content are also important as they may have a significant effect on the success of crowdfunding campaigns. After exploring an initial trial data sample of 10 successful and 10 failed campaigns, we were able to note certain variables that were distinctive among these campaigns. After combining the noted variables from the mentioned 20 campaigns, we were able to create a list of variables which we could investigate in our entire research data sample. The variables which we decided to focus on include the number of pages a campaign contains when printed to PDF, the extent of the frequently asked questions (FAQs) section, the updates quantity, as well as information about project company and team, timelines, video pitch, graphics and several other sections. Table 5 below summarizes the most significant dimensions we explored, as well as presents the averages and confirms the presence of a specific dimension within the campaign.
4.2.1 Campaign Length, FAQs and Updates

The extent of a campaign, which was measured in pages when printed as PDF file, is important as it demonstrates the quantity of content, and may suggest the variance in framing content levels, as the more content there is, the more framing is likely to be discovered within. Notably, the successful campaigns had a much higher average amount of pages per campaign compared to the failed campaigns (see Appendix 2 & 3), creating a ratio of almost ten to one. The quantity of FAQs and campaign updates is also important as it demonstrates the discoverer’s interaction rate with the campaign and is perhaps associated with crowdfunding success. Again, successful campaigns had a much higher number of both FAQs and updates when compared to the failed campaigns. The FAQ section would often contain information about product functions and compatibility, as well as shipping and other practical information. Here is an example of a FAQ from Campaign# 1, TAIHE Gemini:

“If the Gemini is connected to the device, can it charge the phone at the same time?
-Yes, Gemini can connect to PC by HDMI port and charge your phone by Type-C port at the same time.”

The update section’s purpose is to inform the audience of the project progress as well as of the campaign’s funding success. Here is an example from Campaign #5, Laowa 24mm f_14 Probe Lens: “Wow! Thats lighting speed! Thanks everyone for the support. We have reached our $10,000 goal in split seconds...” An interesting aspect of the updates was the frequency they were posted with, which perhaps has an effect on the campaign’s success. For example, Campaign #3, the Nebula Capsule II created updates every one to two weeks, while only 2 out 23 failed campaigns had updates of any sort. This finding confirms research by Kuppuswamy and Bayus (2013), who explore that the existence of a relationship between project updates and success, and conclude that increased project updates are lead to increased project success.
4.2.2 Team and Company Information

Information about the project’s company and team is another important variable, as the successful campaigns had a tendency to include these portions, while the failed campaigns often did not include them (see Appendix 2 & 3). It is also important to note that within many of the successful campaigns, the team and company information section was often more sophisticated when compared to other sections of the same campaign. A typical example of information about the company is demonstrated within Campaign #19, Liberty:

“Zolo is a passionate team of audio luminaries and leading AI talent. Audio engineers who cut their teeth developing iconic products for Bang & Olufsen, Bose, JBL, Sennheiser, and more. Supported by daring AI pioneers and backed by official partnerships with tech giants like Google and Amazon. Together, our vision is: Unite Smart AI with Sublime Audio.”

While company information was often depicted within the campaign text, information about the team was often portrayed with a mix of visuals and text which included the team members photos, names, company titles and a brief description of their previous experience.

4.2.3 Timeline

The timeline section was a crucial variable for the crowdfunding campaigns as it was present in most successful campaigns (20 of 24) and not present in most failed campaigns (3 of 24). See Appendix 2 & 3 for more details. The timeline section would normally contain a product creation and distribution schedule, including milestones such as ideation, prototyping, testing and manufacturing. This section is important as it conveys to the audience the project team’s plan – both how well thought out it is as well as how transparent.

4.2.4 Other

Besides the noted variables listed in the above sections, we took note of other variables which were distinctive within several of the campaigns. Within the successful category, we noticed that several of the campaigns had a significant portion dedicated to instructions on how to use the product. Campaign #15, Algebrix presents this component by having product parts, product guides and tutorials sections. Many campaigns also included a section which demonstrated comments by well-known publishers and organizations. Campaign #19,
Liberty+ is a great example of this as it lists 29 organizations which feature their product. An example of these features is a quote from Forbes Magazine that praises the Liberty+ product: “I’m happy to report that they might have the best connection of any wireless earbuds I’ve tried so far”

Within the failed campaigns category, several featured components were also noted. Poor campaign structure was noticed within Campaign #38, Quick Stance, which includes 58 lines of text without any breaks in between. Campaign #45, Eventurapp was also distinctive, as the campaign was entirely in French, although, Kickstarter.com is an English language platform. Another variable which was noticed within the failed campaigns was the vague costs structure. For example, campaign #26, Net Sky lists the following budget “Servers $1M, Network $1M, Hardware $6M, OS $100K…”

Perhaps the most significant finding which has been discovered is that the successful campaigns on average tend to include more content of higher quality when compared to the failed campaigns. The successful campaigns were more extensive, included more FAQs and posted more updates than the failed campaigns. Beyond these dimensions, successful campaigns on average also provided more information about the company and team, clearer timelines and more professional video pitches and graphics than the failed campaigns.
5 Discussion
In this section we relate our findings to the extant framing literature and discuss the implications our results give.

5.1 Framing Findings Discussion
In the previous section we presented the findings which resulted from the coding and analysis of 47 crowdfunding campaigns. We took into consideration document text, as well as embedded videos and graphics, exploring this content with the use of a rhetorical perspective. According to the framing theory of cognitive categories of opportunity, threat, novelty and commonality, we related coded passages to the themes that characterize the cognitive framing categories. We discovered that all the campaigns in our sample, both successful and failed, demonstrate at least some extent of framing. All four framing categories were present in our sample, with opportunity and novelty being the most commonly applied directions. A slightly less used approach of framing was commonality, while the threat orientation was by far the least frequent framing approach applied.

The most immediate insight was that successful campaigns employ all categories of framing more frequently when compared to the failed campaigns. Threat and commonality were most distinctive, both being applied within successful campaigns twice as much than within the failed campaigns.

We have also discovered evidence which supports Czernich and Zander's (2010) theory regarding the effectiveness of framing approaches (see 2.1.1 Cognitive Categories of Framing), which states that framing a new concept as response to a threat would be more effective than framing it as an opportunity. Campaign #8 FOREO UFO is great example of this. The campaign depicts an apocalyptic scenario of a “facemask epidemy”, the team behind sample #8 FOREO UFO expressed that common facemasks are a threat to humanity, and that only they present a novel product that can solve this issue.

Some of our results also support the another theory outlined by Czernich and Zander (2010), which states that presenting a concept as being similar to an existing solution is more effective than presenting it as being entirely new (see 2.1.3 Theories Regarding Framing Effectiveness). This concept refers to the difference between commonality and novelty framing. An example for commonality is discovered within campaign #16 Cubiio, where the founders make references to existing solutions and show improvements over competitor products. As the campaign conveyed commonality instead of novelty and was extremely
successful, in this example we observe that the second theory outline by Czernich & Zander, (2010) is confirmed.

However, we also notice confirmation of the opposing competing approaches, the prospect theory by Chattopadhyay et al. (2001) and the overuse of threat theory by Jackson and Dutton, (1988) , which we refer to in the literature review section. The prospect theory (Chattopadhyay et al., 2001) theory states that the framing of threat as a challenge induced by the environment can be used to effectively promote a product as a novel solution for that issue. An example would be campaign #9, LARQ Bottle, which states that “more than a million bottles every minute being added to landfills around the world” are a threat to society and that the novel but “simple idea: Pure water from a self-cleaning bottle.” is the fitting solution to mitigate plastic pollution.

The overuse of threat theory by Jackson and Dutton (1988) states that the continued use of threat for the sake of attention generation can lead to loss of supporters for a project. An unsuccessful funding outcome in combination with strong use of threat framing could be observed in campaign #41, Optical Computing Data Center. The campaign highlights the difficulties of the computing industry “Despite its apparent simplicity, it's pretty tough business and it involves many difficulties”. The campaign then proceeds to elaborate on how telecommunication providers struggle serves the increasing demand for online media usage. The campaign resumes that “Recently, however, the situation is much worse”, clearly expressing a threatening situation.

It is important to note that while our results confirm the theories outlined by Czernich and Zander (2010), the original study conducted by Czernich and Zander (2010) has different research settings. The study focuses on framing within a corporate entrepreneurship research setting, while our study focuses on framing within crowdfunding campaigns. This difference within research settings should be observed as it may have an effect on the framing utilization, trends and predominant framing cognitive categories discovered within the data.

During the coding process we discovered that the successful campaigns included more elaborate use of framing when compared to failed campaigns, not only in relation to supporting claims with convincing arguments, but also on a linguistic level, phrasing descriptive and emotional snippets of text. The extensive use of adjectives which were associated with a certain framing contributed to convey the intended message. In contrast, most of the failed campaigns seemed to be created with little effort, showing spelling and grammar mistakes and poor argumentation.
As we discovered variables which are not necessarily connected to the framing categories applied within our study, yet contributed to explain the funding performance of the campaigns, we extended our analysis. Our findings regarding these additional indicators will be elaborated in the following section.

5.2 Additional Findings Discussion

Having applied a qualitative approach, we were explorative with the content analyzed and thus collected a significant number of additional findings. As the framing orientations outlined by (Czernich & Zander, 2010) were applied during data collection and analysis, the additional findings were discovered and explored with the notion of this framework as well. Even though sections analyzed, team and company information, timeline, FAQ, updates and campaign extent, did not conform to the cognitive framing categories outline by (Czernich & Zander, 2010), they still contained a type of persuasive message. The findings are also particularly interesting as framing was discovered in content in which it was not expected to be present, such as non-prose.

Framing was evidently present within the additional findings qualitative content of most successful campaigns. For example, when analyzing the team and company information sections, we noticed that though the framing within this content does not contain a category of framing outlined by Czernich and Zander (2010), there was still communication present that was meant to alter the audience’s perception of the campaigns. Campaign #17 Ticwatch S & E describes their team as such:

“Founded in 2012 by ex-Googlers, Mobvoi aspires to define the next generation of human-machine interaction. 70% of our team are world class engineers, and we strive to make great technology accessible to users all around the world.”

It is evident that framing within this exert is present as the quote empathizes new technology by referring to “new generation of human-machine interaction”, employee competence by referring to “ex-Googlers” and “70% of our team are world class engineers”, as well as quality by referring to “we strive to make great technology”

Framing was also discovered within the timeline section of the campaigns. Within the successful category of successful campaigns, we noticed that almost all campaigns had a sophisticated timeline present. In relation to framing, a sophisticated timeline may perhaps be
used to convey competence and assurance. In other words, the project team displaying a timeline within the campaign may be perceived by the audience as a competent team. This is perhaps due to the notion that presence of a sophisticated timeline within a campaign may suggest the project team has a structured and a well thought out approach.

A similar notion of framing by emphasis on a campaign component was noticed within the campaigns which had extensive instruction sections. As the product which was advertised may have still been under development during the time of instructions creation and posting, it is possible that including this component allowed the campaigns to have framing that depicts the product as ready to use and more tangible.

Even though framing is often associated with linguistics and use of words, the definition of framing is described as communication that consists of mental representation and interpretation, as well as a formation of a reality (Druckman, 2001). Thus, it is not necessary that words need to be present in order for framing to be identified. Our findings support this claim. For example, successful campaigns were highly associated to more extensive campaigns (measured in page amount), as well as larger FAQs (measured in quantity of posts) and Updates sections (measured in quantity of posts). Failed campaigns, on average demonstrated much lesser quantities for all the categories mentioned (see Appendix 3). These finding are similar to findings discovered by Cordova et al. (2015), who outline that the duration of the campaign and the campaigns contribution frequency are important determinants in crowdfunding success.

Perhaps the extent or quantity of such numerically based components may convince the audience that the project team is competent, creating a perception of campaign sophistication. The quantity may be important as the presence of FAQs and updates provides the potential funders with additional information and answers eventual questions, reducing the uncertainty and conveying a security investment opportunity. Another non-verbal type of framing was noticed within the financial budget sections of the campaigns. Campaign #26, *Net Sky - Mobile, Tablet Operation system* list the following budget “Servers $1M, Network $1M, Hardware $6M, OS $100K…”. As the budget is extremely vague, even without being aware of doing so, the project team may have provided content which likely resulted in framing of incompetency, as the budget was not justified or explained further. Thus, it can be concluded that numerical content can contain a certain type of framing as the message communicated is of persuasive nature. As well, framing may be present within both prose and non-prose content.
The additional findings suggest that framing can be present within a variety of content which is included within crowdfunding campaigns, including team and information, timeline and several non-verbal sections. Although the framing used within the content which contributed to the additional findings cannot be categorized into the framing orientations described by Czernich and Zander, (2010), its content matches the definition of framing, as a communication that consists of interpretations and representations to form a certain reality. Our findings also suggest that high quality timeline, team and company information sections, as well as extensive FAQ and update quantities, as well as campaign campaigns length, are all closely associated with the successful funding of crowdfunding campaigns.
6 Conclusion

The study’s aim was to explore the effects of framing on crowdfunding success of technology companies. We applied a qualitative approach to this study, exploring technology company’s crowdfunding campaigns from a rhetorical perspective. The approach was also abductive, as Czernich and Zander's (2010) cognitive framing categories of opportunity, threat, novelty and commonality were applied to identify and categorize framing. Axial coding, with the use of a coding scheme based on the mentioned theory was applied to collect analyze the data. Beyond relating textual or visual contents of the campaigns to the outlined framing categories, we were observant of the emerging themes within the campaigns and indications which would support the implications of our findings.

6.1 Findings

To answer our research question, how the use of the different cognitive framing categories influences the crowdfunding success of technology startups, we analyzed the crowdfunding campaigns of 47 technology startups. In order to distinguish the framing which is associated with successful and unsuccessful funding, the sample was comprised of two groups of campaigns, one being projects which overachieved their funding goals, and the other being projects which failed to achieve their funding goals.

As a result, we discovered that the presence of novelty and opportunity framing increased the possibility of technology startups’ crowdfunding success, while the presence of threat framing decreased the possibility of successful funding. Commonality was associated with successful campaigns to a slightly lesser extent than opportunity or novelty framing. Another finding was that successful campaigns employ all categories of framing more frequently when compared to the failed campaigns. This conclusion is the result of the comparison of the framing discovered within the text and video components of both successful and failed campaigns.

While collecting and exploring the data, we discovered content which could not be categorized within the cognitive categories outlined by Czernich and Zander (2010), yet was predominant within successful campaigns when compared to failed campaigns. This content included team and company information, project timeline, frequently asked questions, updates, and graphics sections, as well as the overall extent of the campaign. After some analysis of the content within the mentioned campaign sections, we discovered that this content does in fact contain a type of framing, as it conveyed a message with persuasive
elements designed for the audience. On average, these sections were much more sophisticated, as well as more commonly applied within successful campaigns, when compared to failed campaigns. Thus, the inclusion of these sections at a high-quality level in a campaign is associated with successful crowdfunding.

It is also important to note, that as some of the listed content, such as the frequently asked questions (measured by quantity), campaign extent (measured in pages) and updates sections (measured by quantity) were partly numerical, yet communicated a persuasive message and were discovered to be crucial for the campaign’s success, we concluded that framing is likely present within the non-prose content of the campaigns as well as prose content. Specifically, the message communicated through the framing outlined the project team competency and sophistication. Therefore, the extensive presence of the listed sections, when presented numerically, is associated with successful crowdfunding.

6.2 Theoretical and Practical Implications

Several previous studies have had focused on a similar theme, with Cordova et al. (2015) studying determinants of crowdfunding success within tech companies, Yuan et al. (2016) exploring crowdfunding success by the use of a semantic text analytics approach, and Conte (2015) using a similar framing category analysis to explore crowdfunding success of art projects. However, all of these the studies applied a quantitative approach, thus providing empirical results which outline the most successful framing strategies and trends. While our study also focused on identifying successful framing orientations used within the crowdfunding campaigns, our qualitative approach, which was explorative in nature, allowed us to contribute by providing a more in-depth analysis of the contextual components within the campaigns and their effects on the campaign’s funding success. The framing findings as well as the additional factors we discovered and analyzed may assist with determining the extent of framing significance as a tool, as well as justify the funding success of technology company campaigns.

Our study’s findings may be very helpful for technology companies which are interested in successfully gaining crowdfunding support. While Czernich and Zander (2010) provide a simple way of categorizing framing, our findings identify the types of framing and other important component which should be present within technology company’ crowdfunding campaigns in order to achieve crowdfunding success. Technology companies can utilize our findings to improve their campaign’s funding success by selecting the framing
which we discovered to be associated with successful funding. As well, project teams can focus on creating sophisticated content within the timeline, team and company information, updates and frequency asked questions sections, components which were also concluded to be of importance for improving chances of crowdfunding success.

6.3 Limitations

As with all studies, our thesis has certain limitations that should be acknowledged and discussed. The first limitation is the specific research setting of analyzing crowdfunding campaigns only within the Kickstarter platform. As the allotted time period for the thesis work amounted to 8 weeks, time was a major constraint. The time constraint did not allow for a more extensive study, which could have involved multiple platforms and possibly led to more representative results. However, though it would have been useful to access more data, we noticed saturation through the repetition of framing themes after analyzing the first 10 campaigns of each bracket.

Another limitation is within the process of coding, which was executed by two persons. As different passages can be interpreted to have various value or meaning by different individuals, the coding process may affect the analyzed data results. To remediate this limitation, we created a standardized coding scheme. However, the outcome of coding performed by different coders might still differ slightly. This is due to the subjective nature of the content analysis, where unknown text has to be related to complex theoretical concepts.

Focusing on assessing framing in only two extreme sample groups which contained only extremely successfully funded or failed campaigns is another limitation. Having such extreme samples likely provided extreme results. Adding samples of average performing campaigns could have provided some valuable insight as well. As we had to restrict ourselves to a manageable sample size but still wanted to explore how framing affects the actual funding result, narrowing down our research scope to these smaller groups of successful and failed campaigns seemed to be an appropriate compromise.

6.4 Future Research Opportunities

While there already is a significant amount of research completed which involves either crowdfunding or framing, there is still a need for studies that involve the combination of the two subjects. Particularly valuable would be studies that involve the themes of framing perception and use motivation, as there are none as of yet.
Using a qualitative approach, it would be valuable to study the potential funder’s reaction to a variety of framing within the crowdfunding campaigns, in order to explore the effectiveness of the framing from a perception point of view. Currently, the success of campaigns can only be evaluated by the funding they received, thus we assume the framing within is what made them successful – studying the reactions and logic of the potential funder may confirm these notions or suggest otherwise. As well, it would be interesting to explore the motivations of the entrepreneurs’ use of framing which is perceived by them as successful, as this would this would illustrate where the potential funder’s demand and the entrepreneur’s output converge.

Using a quantitative approach, a study which relies on a larger data sample size could be created to identify the exact numeric correlation between successful campaigns and the specific framing used within. While some studies, such as the one by Conte (2015), have already explored this subject by applying framing categories outlined by Czernich and Zander (2010), it would also be valuable to identify and explore framing that is not outlined in existing theories, but has been discovered and analyzed as secondary findings within this thesis.

Finally, we suggest that when a significant amount of research within the field of crowdfunding and framing is realized, a framework model of framing strategies for various desired outcomes should be created. Perhaps this model would be a framework which would extend beyond crowdfunding campaigns, and could be also applied towards other areas where a pitch is used to gain funding.
References


Conte, J. 2015. The Art of Framing - To what extent does framing affects the acquiring of financial support for art and culture projects? Uppsala University, Department of Business Studies.


# Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campaign / Project</td>
<td>Undertaking of an entrepreneur to present, promote and create his product. Typically published in form of a “website” on a crowdfunding platform that includes a title and description and often a video pitch and graphics.</td>
</tr>
<tr>
<td>Cognitive category</td>
<td>Certain direction of framing that is typically characterized through underlying certain themes; conveyed through rhetoric as proposed by Czernich &amp; Zander (2010)</td>
</tr>
<tr>
<td>Crowdfunding</td>
<td>The practice of funding a project or venture by raising small amounts of money from a large number of people, typically via the Internet</td>
</tr>
<tr>
<td>Elevator Pitch</td>
<td>Very short version of a regular pitch, supposed to be short enough to be held during an elevator ride</td>
</tr>
<tr>
<td>Entrepreneur</td>
<td>A person that designs and launches a business</td>
</tr>
<tr>
<td>Failed Campaign</td>
<td>A campaign that failed to collect the funding that it aimed to raise</td>
</tr>
<tr>
<td>Framing</td>
<td>Framing is defined as the way of phrasing a message in a way that implicates a certain meaning towards the recipient (Benford &amp; Snow, 2000)</td>
</tr>
<tr>
<td>Funding success</td>
<td>Extent to which a crowdfunding project received financial support</td>
</tr>
<tr>
<td>Graphics</td>
<td>Visual images such as photographs, diagrams, symbols and illustrations used within a crowdfunding campaign</td>
</tr>
<tr>
<td>Pitch</td>
<td>A presentation of a project or concept with the aim to persuade the audience to partake interest within it</td>
</tr>
<tr>
<td>Schedule / Timeline</td>
<td>Overview of milestones and past events of a crowdfunding project</td>
</tr>
<tr>
<td>Successful Campaign</td>
<td>A campaign that successfully collected the funding that it aimed to raise</td>
</tr>
<tr>
<td>Visuals</td>
<td>Videos and graphics used within a crowdfunding campaign</td>
</tr>
</tbody>
</table>
## Appendix

### Appendix 1: Coding scheme with example data

<table>
<thead>
<tr>
<th>Example of Quotes</th>
<th>Variables of descriptions and operationalisations</th>
<th>Cognitive category</th>
</tr>
</thead>
<tbody>
<tr>
<td>powered by unprecedented A.I.</td>
<td>Groundbreaking innovation</td>
<td>Novelty</td>
</tr>
<tr>
<td>next generation of autonomous drones, the Hover 2, reinvented with groundbreaking A.I. technology</td>
<td>Groundbreaking innovation</td>
<td></td>
</tr>
<tr>
<td>excited to unveil the next generation of autonomous drones</td>
<td>Groundbreaking innovation</td>
<td></td>
</tr>
<tr>
<td>reinvented with groundbreaking A.I. technology</td>
<td>Groundbreaking innovation</td>
<td></td>
</tr>
<tr>
<td>innovations like Optical Radar and cutting-edge A.I. enable industry-leading obstacle</td>
<td>Groundbreaking innovation</td>
<td></td>
</tr>
<tr>
<td>fantastic innovations</td>
<td>Groundbreaking innovation</td>
<td></td>
</tr>
<tr>
<td>cutting-edge algorithms</td>
<td>Groundbreaking innovation</td>
<td></td>
</tr>
<tr>
<td>Note: very futuristic graphics, showing how technologies helps to capture fun moments with friends during action activities</td>
<td>Groundbreaking innovation</td>
<td></td>
</tr>
<tr>
<td>is packed with technology that is the first of its kind</td>
<td>Groundbreaking innovation</td>
<td></td>
</tr>
<tr>
<td>Easily capture cinematic clips, powered by unprecedented A.I.</td>
<td>Novel practices and experiences</td>
<td></td>
</tr>
<tr>
<td>entirely new drone experience</td>
<td>Novel practices and experiences</td>
<td></td>
</tr>
<tr>
<td>giving you ground shots of your life from every angle</td>
<td>Novel practices and experiences</td>
<td></td>
</tr>
<tr>
<td>One of the most ambitious yet innovative consumer drones in recent times</td>
<td>Novel practices and experiences</td>
<td></td>
</tr>
<tr>
<td>ZeroZero is a forward-thinking robotics company pioneering the future of smart flying robotics</td>
<td>Novel practices and experiences</td>
<td></td>
</tr>
<tr>
<td>NONE</td>
<td>Improving existing solutions</td>
<td>Commonality</td>
</tr>
<tr>
<td>NONE</td>
<td>Negative outcomes</td>
<td>Threat</td>
</tr>
<tr>
<td>NONE</td>
<td>Loss</td>
<td></td>
</tr>
<tr>
<td>NONE</td>
<td>Uncontrollable situations</td>
<td>Opportunity</td>
</tr>
<tr>
<td>From the makers of the award-winning Hover Camera Passport</td>
<td>Positive Outcomes</td>
<td></td>
</tr>
<tr>
<td>Might well be the best selfie drone on the planet</td>
<td>Positive Outcomes</td>
<td></td>
</tr>
<tr>
<td>to get you flying in no time</td>
<td>Positive Outcomes</td>
<td></td>
</tr>
<tr>
<td>lets you capture yourself and the world around you in dazzling detail.</td>
<td>Positive Outcomes</td>
<td></td>
</tr>
<tr>
<td>a consumer-friendly smart flying camera built for capturing fun and unique perspectives and exciting memories.</td>
<td>Positive Outcomes</td>
<td></td>
</tr>
<tr>
<td>The user experience is designed to enhance and simplify the whole product experience.</td>
<td>Positive Outcomes</td>
<td></td>
</tr>
<tr>
<td>Our ultimate aim is to deliver exceptional quality product and user experience to our highly valued community.</td>
<td>Positive Outcomes</td>
<td></td>
</tr>
<tr>
<td>allowing you to get close-up shots that are impossible on other devices</td>
<td>Gain</td>
<td></td>
</tr>
<tr>
<td>We believe you shouldn’t have to choose between safety, portability, and style.</td>
<td>Gain</td>
<td></td>
</tr>
<tr>
<td>expanding your creative possibilities.</td>
<td>Gain</td>
<td></td>
</tr>
<tr>
<td>and frees your mobile device for other uses.</td>
<td>Gain</td>
<td></td>
</tr>
<tr>
<td>empower people to enhance their lives.</td>
<td>Gain</td>
<td></td>
</tr>
<tr>
<td>with unprecedented ease</td>
<td>Controls</td>
<td></td>
</tr>
<tr>
<td>Imagine your shot and let Hover 2 do the rest.</td>
<td>Controls</td>
<td></td>
</tr>
<tr>
<td>truly immerse yourself in the moment as Hover 2 captures them for you.</td>
<td>Controls</td>
<td></td>
</tr>
<tr>
<td>it received widespread acclaim, won numerous awards.</td>
<td>Controls</td>
<td></td>
</tr>
<tr>
<td>working with the best in the industry.</td>
<td>Controls</td>
<td></td>
</tr>
<tr>
<td>being rigorously tested (….) to minimize risks on the mass production line.</td>
<td>Controls</td>
<td></td>
</tr>
<tr>
<td>ZeroZero is described as “a revolution in flight”, “first flying camera of it’s kind” that “touched the fives of thousands”. Thus, Novelty is very present here. In the following, the features of the drone are elaborated.</td>
<td>Main Video pitch</td>
<td></td>
</tr>
<tr>
<td>20+ pictures and 3 videos. Animated graphics that show functions of the drone. The visuals are very professionally made with vibrant colors and astonishing scenery.</td>
<td>Visuals</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Number of Pages</td>
<td></td>
</tr>
<tr>
<td>Two years ago, ZeroZero introduced its first flagship product, the Hover Camera Passport, a consumers-friendly smart flying camera built for capturing fun and unique perspectives and exciting memories.</td>
<td>Info about company</td>
<td></td>
</tr>
<tr>
<td>Investors include IDG, GSR Ventures, ZhenFund, among others.</td>
<td>Team Info</td>
<td></td>
</tr>
<tr>
<td>Co-founded in 2014 by Stanford Ph.D’s, MQ Wang and Tony Zhang, ZeroZero is a forward-thinking robotics company pioneering the future of smart flying robotics that empower people to enhance their lives.</td>
<td>Schedule</td>
<td></td>
</tr>
<tr>
<td>Clear timeline showing milestones</td>
<td>Updates</td>
<td></td>
</tr>
<tr>
<td>15 Updates</td>
<td>FAQ</td>
<td></td>
</tr>
<tr>
<td>Very extensive FAQ that most answers technical questions</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix 2: Campaign analysis of successful campaigns

<table>
<thead>
<tr>
<th>Campaign Number</th>
<th>Campaign Name</th>
<th>Product Type</th>
<th>Project Launch Year</th>
<th>Number of Pages</th>
<th># of FAQ</th>
<th># of Updates</th>
<th>Information about Company</th>
<th>Information about Team</th>
<th>Timeline</th>
<th>Video with Pitch</th>
<th>Graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TAHE Gemini, the Most Affordable On-the-go Monitor by UNICK</td>
<td>Touchscreen</td>
<td>2019</td>
<td>35</td>
<td>14</td>
<td>27</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>Hover 2 - The 4k Drone that Flies Itself by Zero Zero Robotics</td>
<td>Drone/Camera</td>
<td>2018</td>
<td>26</td>
<td>41</td>
<td>14</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>Nebula Capsule II, World's First Android TV™ Pocket Cinema by Nebula</td>
<td>Projector</td>
<td>2018</td>
<td>33</td>
<td>54</td>
<td>13</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>Foodloose, Next-Gen Automatic &amp; Health-Tracking Cat Potty by Petalo</td>
<td>Pet Product</td>
<td>2018</td>
<td>39</td>
<td>15</td>
<td>10</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>Revolutionize Macro Videography, Laowa 24mm f.14 Probe Lens by Venus Optics</td>
<td>Camera</td>
<td>2018</td>
<td>57</td>
<td>6</td>
<td>12</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6</td>
<td>Atom, World's Smallest 4G Rugged Smartphone by Unihertz</td>
<td>Smartphone</td>
<td>2018</td>
<td>28</td>
<td>7</td>
<td>22</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>7</td>
<td>eufyCam, The Wirefree Security Cam with 365-Day Battery by Eufy Security</td>
<td>Security Camera</td>
<td>2019</td>
<td>37</td>
<td>52</td>
<td>57</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8</td>
<td>FOREO UFO, Beauty Tech Revolutionizes Face Masks In 30 Sec! by Paul Peros</td>
<td>Beauty Tech Product</td>
<td>2018</td>
<td>45</td>
<td>27</td>
<td>9</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>9</td>
<td>LARQ Bottle - Water Purification In a Self-Cleaning Bottle by Justin Wang</td>
<td>Hi-tech vessel</td>
<td>2017</td>
<td>20</td>
<td>42</td>
<td>31</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>11</td>
<td>Wizual Lite, The Easy Cable Cam, For Impeccable Film Shots by Wizual</td>
<td>Cable Camera</td>
<td>2017</td>
<td>40</td>
<td>14</td>
<td>46</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>12</td>
<td>EOZ Air, World's Most Advanced True Wireless Earphones by EOZ Audio</td>
<td>Wireless Headphones</td>
<td>2017</td>
<td>34</td>
<td>21</td>
<td>26</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>13</td>
<td>BioLite FirePit, See Fire, Not Smoke by BioLite</td>
<td>Hi-tech firepit</td>
<td>2017</td>
<td>31</td>
<td>11</td>
<td>27</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>14</td>
<td>POWERUP DART, App Controlled Paper Airplane, With Tricks, by Shai Gofstein</td>
<td>Toy Airplane/Drone</td>
<td>2017</td>
<td>32</td>
<td>19</td>
<td>15</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>15</td>
<td>Algoriblx, The Ultimate Coding Learning Game by Algoriblx</td>
<td>Hi-tech children's toy</td>
<td>2017</td>
<td>48</td>
<td>9</td>
<td>18</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>16</td>
<td>Cubiio, The Most Compact Laser Engraver by Muherz</td>
<td>Engraving Laser</td>
<td>2017</td>
<td>22</td>
<td>10</td>
<td>35</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>17</td>
<td>Ticwatch S &amp; E, A Truly Optimized Smartwatch by Melvvi</td>
<td>Smart Watch</td>
<td>2017</td>
<td>23</td>
<td>28</td>
<td>21</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>18</td>
<td>Obsidian 3D Printer, High Quality, Sleek, and Affordable, by Kodama, Inc.</td>
<td>3D Printer</td>
<td>2017</td>
<td>26</td>
<td>17</td>
<td>19</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>20</td>
<td>Arsenal, the Intelligent camera assistant by Ryan Stout</td>
<td>Camera Accessory</td>
<td>2017</td>
<td>15</td>
<td>17</td>
<td>29</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
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Average: 33.67, 21.79, 25.96, 18 of 24, 23 of 24, 20 of 24, 23 of 24, 24 of 24
## Appendix 3: Campaign analysis of failed campaigns

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<th># of Updates</th>
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Average: 3.74, 0.48, 0.22, 6 of 23, 14 of 23, 3 of 23, 18 of 23, 17 of 23
## Appendix 4: Framing analysis table

### Successful Campaigns

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<th>Opportunity</th>
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### Failed Campaigns

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