The Art and Science of Persuasion: Not All Crowdfunding Campaign Videos Are The Same

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ABSTRACT

To successfully raise money using crowdfunding, it is important for a campaign to communicate ideas or products effectively to the potential backers. One of the lesser explored but powerful components of a crowdfunding campaign is the campaign video. To better understand how videos affect campaign outcomes, we analyzed videos from 210 Kickstarter campaigns across three different project categories. In a mixed-methods study, we asked 3150 Amazon Mechanical Turk (MTurk) workers to evaluate the campaign videos. We found six recurrent factors from a qualitative analysis as well as quantitative analysis. Analysis revealed product related and video related factors that were predictive of the final outcome of campaigns over and above the static project representation features identified in previous studies. Both the qualitative and quantitative analysis showed that videos influenced perception differently for projects in different categories, and the differential perception was important for predicting successes of the projects. For example, in technology campaigns, projects perceived to have a lower level of complexity were more likely to be successful; but in design and fashion campaigns, projects perceived to have a higher level of complexity – which perhaps reflected craftsmanship – were more likely to be successful. We conclude with design implications to better support the video making process.

Keywords

Crowdfunding; campaign videos; persuasion theory; crowdsourced feedback.

Categories and Subject Descriptors

H.5.3 [**[Information Interfaces and Presentation]: Group and Organization Interfaces - Web-based interaction.**]

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1. INTRODUCTION

Crowdfunding—a practice for raising funds from people online by advertising project ideas — has gained immense popularity among new entrepreneurs. For example, Kickstarter, the largest online crowdfunding platform to date, successfully funded 110,270 projects by raising 2.21 billion dollars from more than 11 million backers[1] [31]. Although there have been a large number of successfully funded campaigns, on average, only 35.34% of projects on Kickstarter successfully reach their target goal [31]. The low success rate has inspired the research community to explore campaign features that can increase the likelihood of success. For example, research has shown that campaign duration, funding goal, descriptive phrases, updates, and the number of social media shares are related to the final outcome of the campaigns [40, 25, 41, 39, 63, 40, 35]. These findings provide important guidelines for project creators to improve their campaigns.

One of the most important, and perhaps least explored, elements of a crowdfunding campaign is the campaign video. Because of its storytelling power, a video is a powerful communication channel for connecting emotionally with the audience [17]. The power of video seems equally strong in crowdfunding, as research has found that the mere presence of a video positively influenced donors to pledge their money for a campaign[40]. Kickstarter specifically stresses the importance of videos [30]. In their guidelines, the first suggestion for campaign creators is to include a video that describes "the story behind the project". Recognizing the importance of campaign videos, Kickstarter also makes "project video analytics" [4] available to let project creators know how many times their video was played and what percentages played through the entire video. Although these statistics presumably reflect elements that contribute to the success of campaigns, there is still a lack of systematic studies on how elements of campaign videos affect potential backers' perception of the projects, and to what extent the perception of those elements predicts the campaign's success. In fact, given that 86% of the Kickstarter campaigns have a campaign video [40], predicting success simply by the presence or absence of a video is not very informative. The current study aims to fill this gap in the literature by providing a better understanding of the impact of specific features of campaign videos in different project categories, such that project creators can create more effective campaign videos.

[1]Backers are people who pledge money to join campaign creators in bringing projects to life.

The current study adopts the theoretical framework that assumes that potential backers have two paths to process various persuasive cues that impact their perception of the campaign videos [9]: a top-down path and a bottom-up path. A top-down path is influenced by backers' expectation of the main product promoted by the campaign, and a bottom-up path is influenced by the information communicated by the content and various features of the video. To study the impact of the top-down path, we chose to study 210 campaigns from three project categories (Technology, Fashion, and Design), as donors tend to have different expectations of the product in each of these categories. To study the impact of the bottom-up path, we designed a survey to measure how potential backers perceive different features of the video (e.g., video quality). These features were selected based on the Elaboration Likelihood Model [45] and the literature on effective advertising [60]. We will elaborate on this theoretical framework in the methodology section, which motivates the current framework.

We recruited 3,150 workers from Amazon Mechanical Turk (MTurk) to evaluate the campaign videos. This approach allowed us to observe the persuasion effect of campaign videos on a comparatively larger number of participants than a traditional lab experiment. 29.40% of the MTurk workers recruited for our study had previously backed at least one Kickstarter campaign. We conducted a mixed-methods study involving a concurrent qualitative and quantitative analysis. The qualitative analysis provided us with initial hints regarding MTurk workers' expectations of an effective campaign video. More importantly, it shaped our technique for measuring the impact of the campaign videos through a quantitative analysis which was designed by following the principles of persuasion theory. We will describe details of these features in the methodology section.

To preview our results, the main findings of the current study are listed below.

- In their open-ended responses, MTurk workers primarily focused on the utility and relevance of the product in the technology category. In the design and fashion categories, the presenter in the video and the quality of the audio and video were the main focus. This finding is consistent with the idea that separate top-down category expectations guide backers' attention to different aspects of the videos.

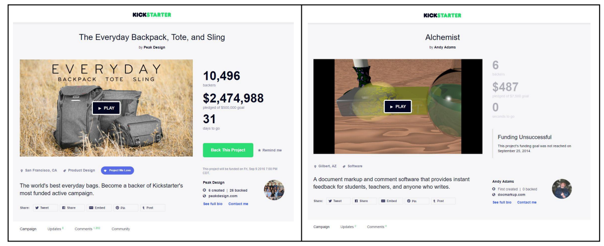
- The perceived quality of the campaign videos was a stronger predictor of the success for campaigns in the design and fashion categories, but the perceived quality of the products was a stronger predictor in the technology category. This finding is consistent with the idea that cues (e.g. audio quality) change in importance and diagnosticity depending upon the category.

- The perceived complexity of the product has different effects on project success in different campaign categories. Specifically, in the technology category, campaigns perceived to have lower complexity were more likely to be successful; but the effect was reversed in the design and fashion categories. This finding has important implications for creating more effective campaign videos for diverse project categories.

2. RELATED WORK

2.1 Predictors of Crowdfunding Success

A large number of research studies have identified predictors of success in crowdfunding campaigns. Greenberg et al. [25] showed



Successful Campaign Unsuccessful Campaign

Figure 1: Example of campaign videos of a successful and an unsuccessful campaign.

that using only static campaign features, such as project goals and project categories, a classifier could predict with 67% accuracy whether a campaign would be successful or not. Etter et al. [21] showed that by adding dynamic features, such as the amount of money pledged across time, and social features, such as twitter activities and social graphs of backers, they could increase the prediction accuracy to 74%. Mollick [40] also studied a comprehensive list of features and found a similar result. These prior work have shown that successful projects had patterns in their project features that could be captured by various types of classifiers. However, these classifiers do not always explain *why* these features are predictive, and therefore provide little guidance for *how* project creators can improve their campaigns.

Subsequent studies looked at details of crowdfunding campaigns to understand how they impact success. Xu et al. [63] found that the final outcome of a campaign was related to the types of updates posted during the campaign. Successful projects tended to use certain types of project updates, which can be interpreted as certain types of persuasive cues for potential backers. The textual description of a campaign such as the length and readability of the description [25] and the use of certain phrases in the description [39] could also impact the final outcome of a campaign. These results are again consistent with the idea that choosing the right persuasive cues (e.g., textual descriptions) are important.

Research has also found that other factors, such as social connections, reward levels, or funding goals are important. Rakesh et al. [47] showed that the larger size of the campaign owner's social network increased the probability of a campaign's success. Greenberg et al. [24] found an association between the number of rewards and campaign success. They found that entrepreneurs reduced the number of reward levels when they relaunched their failed campaigns. Prior work has also found that smaller funding goals [41] and shorter campaign duration [40] positively correlate with success.

Campaign videos are believed to help the project creators create a close bond with potential backers. Prior studies have shown that videos help entrepreneurs showcase professionalism [29], experience [19], and past success [57], which are crucial to success in crowdfunding. These studies, however, have not yet provided an analysis of specific aspects of the video that predict success, and thus, cannot be easily used as guidelines for creating campaign videos. It is also not clear how the persuasive power of a video can predict success *over and above* the predictive power of other static project representation features, such as the funding goal or the number of updates.

The process of coming up with a compelling story for a campaign video is not straightforward for novice entrepreneurs. This suggests that having concrete guidelines could be very useful for novice entrepreneurs. In fact, in interviews, Hui et al. [28] found that making a campaign video was one of the most challenging tasks for novice entrepreneurs. To present a compelling story, new entrepreneurs sometimes had to rely on counselors who agreed to help write their video scripts, but this delayed their campaign's launch date. Entrepreneurs also found it intimidating to handle cameras and editing tools during the video making process. Moreover, in the testing phase, creators often preferred to seek feedback about their videos from their friends and family. However, prior work has shown that friends and family generally do not disclose their honest feedback to each other [22, 23, 8, 13] which makes the task of improving the video based on their feedback harder.

Although the challenges of making campaign videos are discussed extensively among the crowdfunding community via blogs and forums[49, 11], to date only the presence (vs absence) of a video is found to be critical for the campaigns' success; not including a video decreases chances of success by 26% [40]. No systematic study has been done to explore what video factors contribute to the success of projects over and above the existing features found to be important in prior work. We believe that this study will contribute to this corpus of prior work by revealing controllable elements that contribute to the success and enabling entrepreneurs to create more effective videos for their own campaigns.

2.2 Persuasion through Videos

Our main goal is to understand how campaign videos persuade potential backers to support crowdfunding campaigns. However, the concept of persuading users via videos is not new. For example, Kristin et al. [20] investigated the persuasion effect for YouTube's citizen-produced political campaign videos. They found that source credibility was the most important appeal for the audience. They also found that there was no relationship between the appeals in the videos and the strength of the political information. Hsieh et al. [27] studied the persuasive effect of online videos from the perspective of marketing practitioners. They found that perceived humor and multimedia effects had positive influences on both attitude toward an online video and forwarding intentions.

Like political campaign videos, persuasion through videos has been also extensively studied in the context of television advertising. It is widely believed that television advertisements have the ability to alter not just the knowledge but also the attitudes of the consumer. However, Krugman [32] argued that television advertising did not always produce action by changing the attitudes of consumers. Krugman claimed that when the viewer was not particularly involved in the message, television advertisements merely shifted the relative salience of preexisting attitudes toward the product.

Our study differs from this corpus of prior work because we analyze the persuasive effect of videos on a crowdfunding platform. To the best of our knowledge, we are the first one to report the persuasive effects of campaign videos in relation to the success of the campaigns. Our work follows a long thread of research in effective advertising and persuasion theory, which is discussed next in this section.

2.3 Research on Effective Advertising

As only a few researchers have empirically studied the content of campaign videos, as an initial step, we focused on advertising literature because television advertisements have a lot in common with campaign videos. Like television advertisements, campaign videos are created to inform and persuade target backers to adopt a particular product, service, or idea. In addition, both types of videos are short. The average duration of television advertisements is 30 seconds to 1 minute, and the average duration of Kickstarter videos is 2 to 3 minutes. Although television audience and campaign backers may have different viewpoints, these inherent similarities motivated us to explore factors studied in advertising literature to analyze campaign videos.

For both academic research and industry practices, it is important to understand what factors make an advertisement memorable and effective. However, measuring the effectiveness of advertisements has many challenges [54]. People do not usually buy a product immediately after watching an advertisement, so its effectiveness works more as a carryover effect. Furthermore, there are various user and context specific factors such as the viewers' prior experience, product availability, buying capacity, and brand popularity that can potentially impact the viewers' reaction to the advertisement [54]. Despite of all these challenges, prior studies have found that some factors can predict the attitude towards the advertisement with high precision. For example, the production quality of video advertisements is considered an effective predictor of the viewers' attitude towards the advertisement [50]. Other notable factors studied extensively to understand the effect of the advertisements include the attention to, and involvement[46] with the advertisement. Attitude towards the brand is considered an equally important aspect for measuring the effectiveness of advertisements [43].

Currently, there appears to be no single comprehensive list of factors for measuring the effectiveness of advertisements. Lucas et al. [36] took some early initiatives in this direction, summarizing how theories from applied psychology and scientific marketing helped to measure the effectiveness of advertisements. Wells et al. [60] continued that initiative and came up with an updated set of factors applied both in academia and industry research to measure advertising effectiveness. As the main goal of our study is to determine what features of campaign videos might predict success in convincing potential backers, we discuss persuasion theory next.

2.4 The Elaboration Likelihood Model (ELM)

Persuasive communication has been studied extensively in social and behavioral psychology, advertising, marketing, psychotherapy, counseling, and political campaigns. One of the most influential dual process persuasion theories to explain consumer behavior in the advertising literature [55] is the elaboration likelihood model (ELM) [44]. The ELM integrates many seemingly conflicting research findings and theoretical orientations under one conceptual umbrella.

ELM proposes two distinct persuasion routes for evaluative processing: the central route and the peripheral route. Central persuasion results from a person's careful and thoughtful consideration of the true merits of the information presented in support of an object or a topic. For example, in an advertisement for an air conditioner, the cooling power of the air conditioner would be considered a central cue, as this is a critical feature of the product. However, if a person is not motivated to thoroughly process the advertisement, they may simple heuristics such as peripheral cues without scrutinizing the true merits of the information [45]. The color of the air conditioner would be considered a peripheral route because aesthetics are not directly related to the utility of the product. Cue utilization changes based on how they relate to the product. An attractive model with shiny hair may be a peripheral cue in a car advertisement, however, in a shampoo advertisement, that model may be a central cue because shiny hair demonstrates something about shampoo. Similarly, in the context of campaign videos, we expect that arguments regarding the quality and utility of the primary product or service, and the quality of the video or audio will be evaluated differently depending on the category.

Most of the prior studies on crowdfunding have lumped all Kickstarter campaigns as one big category. However, prior work on

ELM has shown that observers' utilization of cues for central versus peripheral routes may vary depending on the motivations and ability of the observer [45]. In our study, we adopted ELM to understand whether central and peripheral persuasion cues can explain the varying perceptions of backers while they are evaluating campaign videos of different project categories on Kickstarter.

3. METHODOLOGY

We divide our methodology into multiple sections to explain how we chose campaign videos for our user study, what advertising literature inspired us to design our survey, and finally, how we conducted the user study using MTurk.

3.1 Selecting Videos for Analysis

For our study, we collected a list of 71,588 publicly available campaign URLs from all 15 categories on Kickstarter launched between April 2014 and February 2015. We shortlisted only those categories which primarily host campaigns about tangible private good products such as technology, games, design, fashion, and craft. Among these categories, we chose following three categories for our analysis: technology, fashion, and design that we felt provided different emphases on utility versus aesthetics. To maximize the diversity of the categories, we chose the technology category, as the products in this category were primarily designed to serve some type of utility requirements. We chose the fashion category since the fashion products primarily stressed aesthetics elegance. We chose design as our third category because we observed that the products in this category were a good mix of both utility requirements and aesthetic elegance.

For each category, we sorted all the campaigns in ascending order based on their funding goal and removed 5% of campaigns from each end of these sorted lists as potential outliers (because of their too high or too low funding goals). Then we randomly chose 35 successful and 35 failed campaigns for each of the three categories and collected their corresponding title videos along with general campaign representation features, including funding goal, number of tweets, number of Facebook shares, number of reward levels, number of updates shared by the project owner(s), number of comments posted by the backers or potential backers, number of images posted on the campaigns' webpage, and campaign's duration[2]. During this selection process, we considered only "non-live" campaigns (campaigns with past deadlines) so that we knew the final outcome of the campaigns (successful or failed).

3.2 Designing the MTurk Survey

To design our survey, we consulted the large body of literature on effective advertising and selected factors that were measured based on the individual responses of potential consumers, as in our study, we aimed to collect the individual reaction of MTurk workers on campaign videos. During this process, we excluded some factors from our consideration, as they were only applicable to television advertisements. For example, one of the most important factors for measuring the effectiveness of television advertisements was "brand equity" of the product. However, as crowdfunding platforms were built primarily for new entrepreneurs without any established brand name, we considered this factor irrelevant to our study. We applied a similar judgment for the "celebrity endorsement" factor, as it was less likely for celebrities to endorse a product launched on Kickstarter without an established brand name. Our goal was to identify factors related to the diverse persuasion effect of the videos on the viewers. However, during this selection process, we avoided the direct memorization effect as it might not be crucial in crowdfunding; potential backers likely viewed a specific video only once. Based on these criteria, we chose the following seven factors for our analysis: 1) relevance, 2) complexity, 3) involvement, 4) purchase intent, 5) perception of video duration, 6) audio-video quality, 7) attitude toward the video.

We expected the cues to be utilized differently depending on the category. Factors related to the product [33] (factor 1 to 4) were primarily used to judge the merit of the product. As the main purpose of a campaign video is to advertise the product to potential backers, for technology products, we considered the product related factors as the central cues. On the other hand, backers potentially would not have any direct incentive to evaluate structural features [33] of the campaign videos; rather they would evaluate the quality of the structural features based on some heuristics and their prior experiences. Therefore, for technology products, we considered video related factors (factor 5 to 7) as peripheral cues. However, for design and fashion products, these aesthetic or sensory video factors may be more meaningful for evaluating the product. We will refer to factor 1-4 as **product related factors** and factor 5-7 as **video related factors**. Figure 2 shows how we divided the seven factors.

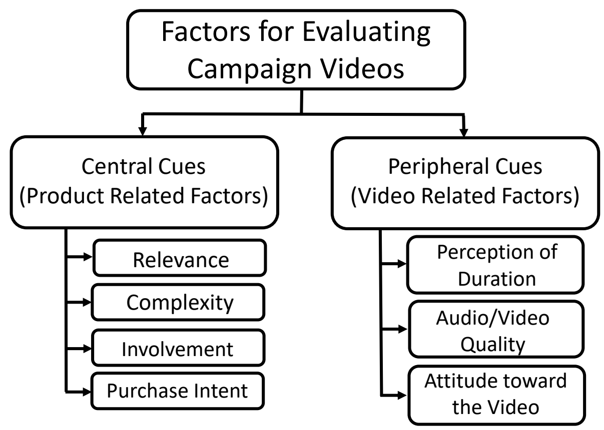


Figure 2: The figure shows the product and video related factors. We used these factors to analyze campaign videos in our study.

We collected the complete list of 62 survey questions for the seven factors from their corresponding literature (discussed below). We conducted a series of preliminary pilot studies on MTurk with these questions. During the pilot studies, we observed that participants found it hard to answer some questions especially questions related to the novelty of the product because of their lack of background knowledge. We iteratively removed those questions from the survey until we developed a stable list of 28 survey questions that we believed were suitable for novice MTurk workers. We describe each of these factors along with their corresponding literature next.

3.3 Product and Video Related Factors

3.3.1 Product Related Factors

We considered four factors related to the assessment of the product: a) relevance, b) complexity, c) involvement, and d) purchase intent. Prior work has shown that these product related factors are important to convincingly present a target product to potential consumers. Here, we briefly describe these four factors.

Relevance: In advertising research, creativity is considered one

[2]By "successful", we mean the campaigns that reached their funding goal within their deadline.

of the essential elements needed to stand out in a cluttered marketplace. [50]. A widely accepted approach to describe creativity is to use two criteria: novelty and relevance [51, 53]. However, during our pilot studies, we observed that questions related to novelty were confusing to crowd workers as backing a new product or idea should involve some novelty already. Therefore, we ignored questions regarding novelty for our survey and only considered questions regarding relevance to measure the extent to which the video content was relevant to the MTurk workers [50].

Complexity: In marketing research, product complexity has been found to affect factors like sales, innovation, and consumers' attraction [18, 59]. If a product is in an unfamiliar or complex category, its complexity may overwhelm consumers. However, complexity can also attract and maintain interest in cases where a complex design adds elegance without incorporating more challenges for the consumer. We included this factor to understand whether effects of perceived product complexity differ depending on project category.

Involvement: A central concept in consumer research over the past few decades is involvement. Higher involvement towards a product indicates more stable attitudes that are less likely to change [64]. Prior work has shown that involvement encapsulates arousal, interest, and motivation of the consumer [48]. To measure MTurk workers' involvement with the campaign video, we used the 10 item unidimensional scale proposed by Zaichkowsky [65].

Purchase Intention: Purchase intention is an individual's conscious plan to make an effort to purchase a product [2]. It is used in advertising research to measure consumers' reaction to the product after encountering the advertisement [34, 26]. We measured purchase intention using a single survey question (In a scale of 1 to 5, how likely will you purchase this service or product in future?) to measure the direct impact of campaign videos on MTurk workers.

3.3.2 Video Related Factors

We considered three video related factors for our analysis: a) perception of video duration, b) audio-video quality, and c) attitude towards the video. Although the main purpose of a television advertisement is to present a target product successfully to the audience, viewers evaluate television advertisements based on several indirect factors. Our video related factors were introduced to measure the impact of these indirect factors and to see if they might be utilized differently depending on the category.

Perception of Duration: Previous studies have shown that perception of the passage of time is affected by interest, motivation, or enjoyment of a task [1, 58]. When viewers feel that while watching an advertisement, time passed more quickly, they tend to enjoy the advertisement more [16]. We expected that perceiving Kickstarter campaign videos to have a shorter or longer duration (relative to actual duration) would be an indicator of interest in the campaign video. Therefore, we included this factor in our survey.

Audio/Video Quality: Previous literature have shown that the audio/video quality of a video has a major impact on the viewers' perception of product quality [3, 50]. To explore whether production quality is also important for crowdfunding videos, we asked crowd workers four questions. Three questions focused on the perceived quality of the audio, visual, and complete production procedure, and the last question was about the video's overall quality [50].

Attitude Towards the Video: Attitude towards the advertisement video is an important mediator for measuring the effectiveness of advertisements. It is thought to provide an understanding of the consumers' overall evaluation of the advertisement video. In our survey, we measured the attitude of crowd workers towards campaign videos on a four item, seven-point Likert scale. The items are anchored by "pleasant-unpleasant", "good-bad", "like-dislike", and "interesting-uninteresting". [38, 15].

3.4 Data Collection from MTurk

We recruited MTurk workers to evaluate the campaign videos for two reasons: 1) the MTurk platform enabled us to recruit a large number of participants for our survey at a reasonable cost, and 2) prior work has shown that MTurk workers can perform complex skill-intensive as well as subjective rating tasks [5, 61, 12, 62, 37]. To collect data from MTurk, we posted Human Intelligent Task (HIT)s asking the MTurk workers to watch a randomly assigned campaign video. To ensure that the crowd workers watched the video, we disabled all video player controls (play, go forward, go backward, and pause). We also displayed two single digit numbers embedded at random timestamps in the video. At the end of the video, we asked MTurk workers to report those two numbers shown in the middle of the video. We discarded the responses of the MTurk workers who failed to report those numbers with an assumption that they did not pay enough attention to the video. Overall, we rejected 8.7% of responses for this reason. Although this memory task might interrupt the viewing experience of the MTurk workers to some extent, we believe that the impact would be minimal and would be normalized as all the crowd workers experienced a similar interruption.

Once the video was over, we redirected the crowd workers automatically to the survey page. We did not allow MTurk workers to watch the video more than once to ensure that the survey responses were based on their first impression of the video. We believe that this strategy would closely replicate a real-life scenario where backers would generally watch a specific campaign video only once. We made the assumption that MTurk workers had not watched those campaign videos from some external sources before. At the end, we asked MTurk workers to complete a demographic survey.

We conducted a mixed-methods analysis consisting of two phases: a qualitative analysis and a quantitative analysis. Before they responded to any other questions, we asked each MTurk worker to write down their thoughts about the video in a free-form text box. Our goal was to keep crowd workers free from any influence of the survey questions while they provided their open-ended opinions. We used these responses for qualitative analysis. After completing the free-form comment section, MTurk workers subjectively rated the video on product and video related factors. We used these subjective ratings to conduct our quantitative analysis. We collected opinions and subjective ratings from 15 different MTurk workers for each of the 210 videos to reduce the bias across individual workers[3]. For the statistical analysis, we averaged the 15 responses for each video. Each MTurk worker rated only one video. In total, 3150 unique MTurk workers participated in our study. We paid 33 cents (an average payment amount in AMT for 9 minutes) for each completed task.

We conducted a qualitative analysis of the open-ended answer to understand how MTurk workers perceive campaign videos without any external priming. The quantitative measures, on the other hand, allowed us to observe whether existing measures from the ad-

[3]To decided the number of workers required to evaluate each video, we consulted the existing literature. Bernstein et al. [6] hired around 15 MTurk workers to perform their word processing tasks. In a recent study, Carvalho et. al. [14] has shown that each task in a study should hire 11 workers for optimum performance. However, when a job requester does not have any prior knowledge about the system, it is advised to hire a few more workers for improved convergence.

vertising literature could improve the accuracy of predicting a campaigns' final outcome over and above the existing static campaign representation features which were already found to be predictive in prior work. Moreover, the findings of the qualitative study could also help us explain whether the theories adopted from advertising literature were appropriate or not for analyzing the campaign videos.

4. RESULTS

4.1 Qualitative Analysis of the Free-Form Comments

The free-form open-ended comments from the MTurk workers allowed us to explore how MTurk workers perceived the campaign videos. Two coders thoroughly investigated the free-form comments to identify what factors primarily influence the overall experience when watching a campaign video. The coders iteratively developed a coding scheme for the factors related to campaign videos using an induction process [56] that involved multiple coding and revision cycles until we saw consistent patterns in the data. During this process, we excluded 13.8% of the comments from our analysis as these comments were too short for successful coding, and they were usually not too meaningful for our purposes. Examples of some rejected comments are: 1) "Good", 2) "Okay", and 3) "watched the video". After the coding scheme was established, a third coder examined it to confirm the scheme. 9% of the MTurk workers did not comment on their videos. Based on the manual coding, we classified all the comments into six factors. These factors could also be put into two major categories: product related factors and video related factors – i.e., the same categories in our subjective rating survey. In this section, we discuss the factors identified through our qualitative analysis.

4.1.1 Product Related Factors

Three factors were noted that were related to the product: 1) content of the video, 2) the effect of product complexity, and 3) explanation of the necessity of the funding. The following sections describe these factors in detail and explain how the factors vary across different project categories.

Content of the Video: MTurk workers mentioned several issues about the content of the video in their free-form comments (n = 474). MTurk workers felt that showing the step-by-step development of a product, especially in the technology category, helped them trust in the ability of the campaigns' owners. MTurk workers also appreciated owners for explaining the purpose and utility of their products in their videos.

> *"Loved it. It was [a] clear concept and easy to relate to. I loved the journey he took us on through; from the outdoor[s] to his workshop to an office. He showed us many different products when he was telling walking us through his design of his website without making it the main focus."*[MT658]

Moreover, MTurk workers often felt that some products had many similar products already available in the market. In these cases, MTurk workers expected the owners to explain how their products were different from the existing products. Without that explanation, MTurk workers thought that the proposed products were redundant and therefore did not need to be funded.

> *"I thought that it was an interesting product. But, I am not so sure that it is that different from other products that may be available already. It's hard to imagine that something like this doesn't already exist."*[MT851]

Another critical issue in this domain was the time taken to introduce the products. For all three categories, sometimes the owners took an unexpectedly long time to introduce their product in their videos. MTurk workers felt that the owners wasted their time with less important details in the beginning. In multiple instances, MTurk workers felt that they would have stopped watching the video because of the long introduction time if they were not participating in an MTurk task. MTurk workers also felt uncomfortable if the videos had long silences where there was neither any background music nor any speaker talking. They also explained that videos with many still pictures looked like a slide show instead of a video and reflected a lack of effort from the owners' side.

MTurk workers explicitly appreciated campaign videos where the owners showed the final product instead of just a design prototype. In addition, MTurk workers felt confident about a campaign when they saw real users were happy about using the product instead of professional models. Furthermore, they felt that it was important to show a sense of community in the campaign video, i.e., the campaign owners should explain not only how their product would be useful for themselves but also how others would benefit from their products.

The Effect of Product Complexity: MTurk workers interpreted the products' complexity differently for different product categories (n = 310). We found that for the technology category, MTurk workers appreciated the intuitive, easy to use product designs, as they felt more confident about using technology products that they could easily understand through the short video. As one crowd worker mentioned:

> *"He was very thorough in explaining the importance of his toolkit and what it can do for businesses. Also, this is something that any level of skill could use. I like that you don't have to have a lot of experience to use it."*[MT289]

On the other hand, MTurk workers found it intimidating when they watched videos of complex and hard to understand technology products. As one MTurk worker mentioned:

> *"When I was finished watching the video, I started contemplating how hard it would be for someone like myself, with little to no experience in web videos, to use his product/service."*[MT693]

MTurk workers mentioned that frequent use of technical jargons made it harder for them to understand the basic concepts of the products; hence they considered these products to be more complex. As expressed by another MTurk worker:

> *"There was way too much technical detail being thrown out too fast. It made it very hard to follow. My head hurts. The people and the product seemed genuine but I just wanted it to end."*[MT2177]

The concept of perceptual fluency [52] can explain this behavior which claims that new, difficult to process elements can be interpreted as increased risk or taken as complex. For example, roller coasters that have more difficult-to-pronounce names are judged as more dangerous.

We observed the opposite effect for the campaigns in design and fashion categories. For design and fashion campaigns, MTurk workers appreciated products having complex designs because of excellent craftsmanship, owners' attention to details, and rigorous effort put into the development of the products by the owners which made the product seem to be higher quality.

Explanation of the Necessity of the Funding: The main purpose of any crowdfunding campaign is to convince people to donate money to back an idea or product. MTurk workers showed concerns when the campaign owner did not address why they needed funding from the crowd (n = 258). In some instances, the owners of unsuccessful campaigns mentioned in their video that they already owned a company or a shop and still sought donation to launch a new product. MTurk workers thought that entrepreneurs who already owned an establishment should be capable of launching their own products without any donation from the crowd. MTurk workers felt that if the owners still sought donations on Kickstarter, they should explain clearly why they could not afford to launch their product using their existing capital. Otherwise, the MTurk workers felt exploited as one MTurk worker stated:

> *"I don't realize why she needs funds from the crowd. She seems very ordinary to me and it appears she has plenty of money already."*[MT573]

MTurk workers also felt that entrepreneurs who explicitly described their future plans about how to spend the donation money looked more authentic and competent than the campaign owners who did not explain their budget in the video.

4.1.2 Video Related Factors

In terms of the video, we found three more factors: 1) perceived quality of audio and video, 2) appearance of the owner in the video, and 3) use of comedy, children, and pets. The following sections describe these factors in detail.

Perceived Quality of Audio and Video: The perceived quality of audio and video was the most frequently mentioned factor for all three project categories (n = 690). MTurk workers strongly criticized lower quality audio and video in their comments. One major issue related to audio was the choice of background music. MTurk workers mentioned that their overall experiences of watching the video were enhanced when the mood of the background music matched the content of the video. On the other hand, an inappropriate use of background music (such as loud music playing while the owner spoke) distracted them from the content of the video.

> *"The music in the background drove me crazy. It was too loud, obnoxious, and annoying. It was an odd choice for the video."*[MT602]

Another frequently mentioned issue related to the audio quality was the background noise. MTurk workers found that technology videos recorded in a production facility were hard to follow because of the loud background noise. A similar issue was observed when the videos were recorded in an outdoor setup due to the strong sound of wind.

The video quality was another important issue raised by the MTurk workers. Low camera resolution, a shaky hand-held or out-of-focus camera, poor lighting, and poor editing were a few major issues discussed regarding poor video quality. Reflection from an amateurish or glossy background was another frequent reason for low perceived video quality by the MTurk workers. Because of poor video quality, MTurk workers doubted the ability of the owner to produce an acceptable product. Perceived low A/V quality was interpreted as a lack of professionalism.

Appearance of the Owner in the Video: The second frequently discussed factor about the campaign video was the appearance of the owner (n = 495). MTurk workers mentioned the appearance of the owner more frequently for videos in the design and fashion categories than the technology category. They found that some project owners looked nervous and expressed low self-confidence through their body language. MTurk workers felt disconnected when the owners did not appear as a serious and passionate person when explaining their products in the video.

> *"that one dude was wearing a baseball hat and that seemed ridiculous that he was trying to sell his product or get people to pay him to make the product while looking like a degenerate."*[MT774]

In some cases, MTurk workers observed that the owners read their script from a teleprompter or a piece of paper held behind the camera. MTurk workers interpreted this behavior as a lack of passion, which lowered their overall satisfaction for the video. An over or under-rehearsed script was another factor which was interpreted as a signal of owners' lack of passion for the campaign.

> *"They[campaign owners] seemed very nervous and that made me believe that they could not accomplish their objective. They were reading their lines from a tiny screen. I thought that they should have scripted this out a little more; There were way too many 'ah' and 'ums' throughout the video."*[MT1077]

MTurk workers also criticized the owners for not smiling in the video. The owners' speech sounded less engaging without any smile. Another frequently mentioned factor about the appearance of the owners was their accent. MTurk workers sometimes found it hard to understand heavy accents of the project owners in the videos. Some felt distracted and failed to follow the details of the campaign due to the unfamiliar accent.

Use of Comedy, Children, and Pets: One popular way to present the products through campaign videos in Kickstarter was the use of humor or comedy. MTurk workers felt that a hint of comedy made the video enjoyable and more engaging. However, most of the MTurk workers felt that too much comedy or satire was distracting and annoying (n = 205) gave them an impression that the campaign owners themselves did not take their products seriously. Workers struggled to understand the main message of the video delivered through overemphasized comedy, which made them less motivated to donate to the campaign.

> *"I just couldn't help thinking at every new point he brought up how ridiculous the whole thing sounded. I felt that the jokes made it difficult to tell if they were seriously pitching a product. If [they were] serious, it was unprofessional."*[MT575]

Another frequently mentioned factor was the use of children and pets in campaign videos. MTurk workers appreciated campaign owners for including children and pets when their products were targeted for children and pets, respectively. However, when there was no direct connection between the product and children or pets, MTurk workers found that the use of children and pets in those videos was annoying and intended to hide the weakness of their products by exploiting the backers emotionally. For example, in a video for a jewelry product, the owner let her cat roam around in front of her while she explained her product in the video. MTurk workers found that distracting:

"The cat needs to stop walking around in front of the speaker. It was distracting and annoying. What [does] the cat have to do with the jewelry."[MT90]

4.1.3 Summary of the Qualitative Analysis

The exploratory qualitative analysis revealed six factors from the free-form comments provided by the MTurk workers. Three of these aspects were closely related to the product (central cues), and the other three factors were related to the video (peripheral cues). This exploratory qualitative analysis suggested that MTurk workers' opinions were generally consistent with our framework derived from the elaboration likelihood model and cue utilization. Some of these factors, such as product complexity and the audio-video quality were the same as the factors in our survey, which was designed based on existing advertising literature. This indicates that the evaluation strategies of the MTurk workers for the campaign videos had a certain level of similarities to the strategies of a consumer of television advertisements. This observation has major implications for entrepreneurs to design their campaign videos. This observation suggests that following well-established strategies of television advertisements to campaign video creation could be beneficial for entrepreneurs. In addition, our qualitative analysis revealed some new factors (such as the appearance of the owner and the use of comedy, children, and pets) that seemed to take on specific importance to crowdfunding, which we did not consider in our survey. These additional factors gave us a comprehensive list of opinions regarding the campaign video that would be hard to capture through a user survey.

When we analyzed these factors separately for three different project categories, we found that for the technology category, only 24.20% of MTurk workers mentioned at least one video related factor in their free-form comments. On the other hand, for the design and fashion categories, 39.05% and 43.66% of crowd workers respectively, mentioned video related factors in their free-form comments. This difference implies that MTurk workers concentrated more on video related factors for the design and fashion categories, but for the technology category, product related factors were their main concern. We interpret this observation as consistent with the notion that potential backers are more likely to apply a top-down approach to judge the products of different categories. The backers are likely to employ their prior experiences while evaluating a campaign depending on a specific project category even before judging the merit of the actual campaign. This top-down approach may shape the attitudes of the backers in a different way for different project categories.

Although this qualitative analysis gave us some bottom-up initial insight into the MTurk workers' attitude towards the campaign videos, these observations could not measure the prediction strength of the central and peripheral factors for the final campaign outcome. In addition, to measure how MTurk workers utilize different cues when analyzing campaign videos based on different project categories, we also needed to measure the relative effects of product and video related factors for each project category separately. MTurk workers' varying attitude towards different project categories motivated us to apply a nested block-wise logistic regression technique for quantitative analysis, which would allow us to measure the effect of product and video related factors separately for each category.

4.2 Quantitative Analysis of the Subjective Ratings

We conducted a quantitative regression analysis using subjective ratings provided by the MTurk workers for campaign videos. We used our custom survey questions regarding product and video related factors (explained in the methodology section) to collect subjective ratings from MTurk workers. To initialize our regression model, we used the following static project representation features found effective to predict the outcome of the campaigns in prior work : 1) campaign's funding goal, 2) number of tweets, 3) number of Facebook shares, 4) number of reward levels, 5) number of updates, 6) number of comments, 7) campaign's duration, and 8) number of images. Here, we explain how we used project representation features and subjective ratings to perform logistic regression analysis.

4.2.1 Factor Analysis

We used the nested block-wise logistic regression method to develop a model for the projects' final outcome (success/failure) prediction. To decide the structure of each block, we performed factor analysis on all survey questions. Factor analysis shows us how much each factor explains the variances in the data through percentage variances for each project category. It also shows us the corresponding percentage variance of the survey questionnaires in each factor. We used the percentage variance of each factor to define our predictive factors and the percentage variance of the survey questionnaires to decide their membership among the chosen predictive factors.

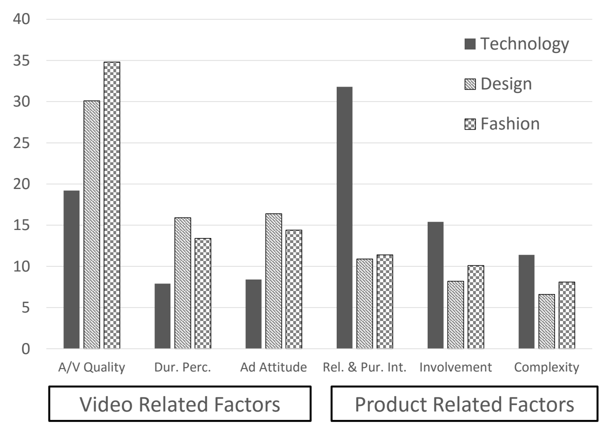


Figure 3: The percentage variances of video and product related factors calculated using factor analysis for all the project categories.

We found that for all three project categories, relevance and purchase intention factors were highly correlated (correlation coefficient: 0.81). Therefore, we combined these two factors to create a new factor called relevance and intent. Figure 3 shows the percentage variances of the factor analysis for the video related and product related factors. For the technology category, the product-related factors had higher percentage variances (cumulative 58.6%) than the video related factors (cumulative 35.5%). However, for the fashion and design category, the video related factors had higher percentage variances (Fashion 62.6% and Design 62.4%) than the product related factors (Fashion 29.6% and Design 25.7%). These results indicate that according to the survey responses, the product related factors explained more variances for the technology category. For the fashion and design categories, video related factors were responsible for the larger variances.

4.2.2 Logistic Regression Analysis

To conduct the nested block-wise logistic regression process, we considered video and product related factors as two separate blocks. We also created one separate block consisting of only the project representation features found to have predictive power in prior work. We created two logistic regression models for each project category. We initialized our **first logistic regression model** with the block of project representation features. We called this initialization process 'step 0'. Then, in 'step 1', we added the video related factors in the model and in 'step 2', we added the product related factors to complete building the first model. For **the second logistic regression model**, we again initialized the model with the project representation features in 'step 0', but reversed the order of entry of the blocks of product and video related factors. So, we added the product related factors in 'step 1' and the video related factors in 'step 2' of the second model. The quality of the models was measured using Nagelkerke's R^2 [42]. This process of adding blocks was repeated for each of the three project categories. These two models allowed us to compare the relative effect of each block of factors separately for each project category, which was necessary to find the differences among the project categories.

Our dependent variable was the actual final outcome of each project in Kickstarter: successful or unsuccessful. We coded the successful projects as 1 and unsuccessful projects as 0. We estimated the Wald statistic of the model after adding each block to confirm that the Wald statistic was significant ($p < 0.05$) for the model.

We tested the assumptions of the logistic regression analysis before conducting the regression procedure. We performed Box-Tidwell procedure [10] on all six independent variables to confirm the assumption that they were linearly related to the logit of the dependent variables. For all the independent variables, the interaction terms were not statistically significant, which indicates that our independent variables satisfied the assumption of linearity. Moreover, after merging the relevance and purchase intention factors, factor analysis showed that no two independent variables were highly correlated to each other, satisfying the multicollinearity assumption. We also verified the studentized residuals to make sure that there were no significant outliers in our sample. Tables 1, 2 and 3 have shown β coefficients of the logistic regression at each step for the technology, design, and fashion categories respectively along with the Nagelkerke's R^2 value. The Wald statistic for R^2_δ was significant in all the stages. Here we discuss each project category separately.

Table 1: β coefficients of the Hierarchical Logistic Regression for the Technology Category. Asterisk($*$) denotes statistical significance ($p<.05$).

	Model 1			Model 2		
	Step 0	Step 1	Step2	Step 0	Step 1	Step 2
R^2	0.31	0.42	0.56	0.31	0.48	0.56
$R^2_\triangle$	0.31	0.11*	0.14*	0.31	0.17*	0.08*
Atti. towards Video	-	-0.17*	-0.16*	-	-	-0.16*
A/V Qual.	-	0.24*	0.20*	-	-	0.20*
Dur. Perc.	-	-0.04*	-0.01	-	-	-0.01
Rel. & Pur. Int.	-	-	0.50*	-	0.26*	0.50*
Involvem.	-	-	0.64*	-	0.39*	0.64*
Complex.	-	-	-0.14*	-	-0.13*	-0.14*

The Technology Category Table 1 shows the regression analysis for the technology category. For both model 1 and model 2, the prediction power of the product and video related factors was calculated on and above the project representation features which were added in step 0 for initialization. Our analysis shows that product related factors have the most predictive power for the campaign outcome in the technology category. All the predictive variables in this block were statistically significant. Relevance and involvement were positively correlated with the outcome. Involvement had the most significant influence in our model, closely followed by relevance and complexity. However, complexity is negatively correlated with the success of the technology projects.

All video related factors except the duration perception were statistically significant for this category. Audio-video quality had the most significant positive association with the outcome of the campaigns. Duration perception was negatively correlated here, suggesting that the crowd workers did not consider the successful campaign videos as long. One interesting finding in this block was the negative coefficient of the attitude towards the video, which suggested that having more interesting and pleasant videos did not help the campaigns in the technology category to be successful. One explanation for this is that the most interesting videos might have shown some highly ambitious products, which the MTurk workers might not have much faith in.

Table 2: β coefficients of the Hierarchical Logistic Regression for the Fashion Category. Asterisk($*$) denotes statistical significance ($p<.05$).

	Model 1			Model 2		
	Step 0	Step 1	Step2	Step 0	Step 1	Step 2
R^2	0.32	0.50	0.57	0.32	0.43	0.57
$R^2_\triangle$	0.32	0.18*	0.07*	0.32	0.11*	0.07*
Atti. towards Video	-	0.13*	0.26*	-	-	0.26*
A/V Qual	-	0.21*	0.54*	-	-	0.54*
Dur Perc.	-	-0.15	-0.18*	-	-	-0.18*
Rel. & Pur. Int.	-	-	0.08	-	0.14*	0.08
Involvem.	-	-	0.12*	-	0.15*	0.12*
Complex.	-	-	0.04*	-	0.09	0.04*

The Fashion Category Table 2 shows the regression analysis for the fashion category. For the fashion category, we found that the video related factors had the most predictive power as a block. All the factors in this block were statistically significant, and audio-video quality had the most significant association with the final outcome of the campaigns. Audio-video quality and attitude towards the video were positively correlated, whereas, duration perception had a negative coefficient. This suggests that MTurk workers' perception of higher audio-video quality and a better attitude towards the video predicted successful fashion campaigns. Product related factors were less predictive than video related factors in the fashion category. Among the product related factors, all the factors were positively correlated with the outcome, but relevance and intent were not statistically significant. Complex fashion products might receive more appreciation from the consumers, which might increase the likelihood of those projects being successful.

Table 3: β coefficients of the Hierarchical Logistic Regression for the Design Category. Asterisk($*$) denotes statistical significance ($p<.05$).

	Model 1			Model 2		
	Step 0	Step 1	Step2	Step 0	Step 1	Step 2
R^2	0.34	0.47	0.53	0.34	0.42	0.53
$R^2_\triangle$	0.34	0.13*	0.06*	0.34	0.08*	0.11*
Atti. towards Video	-	0.07	0.23*	-	-	0.23*
A/V Qual.	-	0.17*	0.48*	-	-	0.48*
Dur. Perc.	-	-0.13*	-0.21	-	-	-0.21
Rel. & Pur. Int.	-	-	0.02	-	0.08*	0.02
Involvem.	-	-	0.06*	-	0.09*	0.06*
Complex	-	-	0.03*	-	0.11*	0.03*

The Design Category Table 3 shows the regression analysis for the design category. We again found that video related factors were the most predictive factors. In this block, audio-video quality had the largest positive association with success. Duration perception

Table 4: Comparing the prediction accuracy of the model among the previously found project representation features only, project representation features + video related factors, and project representation features + product related factors. Subjective ratings of product and video factors can achieve accuracy around 82% on average, which is around 16% higher than the average accuracy for the project representation features (average 66.06%)

	Proj_Rep	Proj_Rep + Vid_Rel	Proj_Rep + Prod_rel
Technology	68.8	77.7	83.1
Fashion	68.9	85.8	80.5
Design	65.1	77.7	74.4

was negatively correlated. Product related factors were less predictive than video related factors for campaign videos. Among all the product and video related factors, only duration perception was negatively correlated with the final outcome of the campaigns.

4.2.3 Accuracy Prediction

We compared the prediction power of the models at each step of the regression analysis by measuring prediction accuracy. Table 4 shows the accuracy comparison for the project representation features found previously to predict success. The addition of the video and product related factors over and above the campaign representation features improved the prediction accuracy for all categories. For the technology category, product related factors had higher prediction accuracy than video related factors. For the fashion and design categories, video related factors had higher prediction accuracy than product related factors.

4.2.4 Summary of Quantitative Analysis

The logistic regression analysis and the corresponding prediction analysis of the three project categories revealed that although prior work has demonstrated project representation features predicted the success of campaigns with reasonable accuracy [40, 25], our results showed that subjective ratings of the product and video related factors in campaign videos can improve the prediction accuracy of the final outcome of the campaigns over and above the campaign representation features in the prediction model. Although the additional variances explained was modest (about 10% from each type of factors for a total of about 20% of the variance), to our knowledge this was the first attempt to understand *how* different factors in campaign videos impacted their successes, and *how* they could vary in different project categories. For example, we found that MTurk workers attended to different factors in the videos in the technology category differently than videos in the fashion and design categories, and there seemed to be differences in how the attended factors predicted their successes. Future research can further investigate how these factors can actually help creators to create more effective videos that will better match their products.

Overall, our findings were consistent with our general framework inspired by ELM. People who are motivated to evaluate a message will look for cues that are important for the product. These cues may change depending on the expectations or uses of a product category. Crowd workers were more influenced by the central cues when evaluating videos of the technology category. It is possible that because most of the products in the technology category were utility-based products, crowd workers mostly concentrated on the product related factors as being central to the argument of why they should or should not fund the campaign. On the other hand, as products displayed in the fashion and design campaigns were, in general, more artistic and aesthetically attractive (or at least these properties were expected to be important for these products) than the products in the technology category. If a campaign owner can make an aesthetically pleasing and well-produced video then they might transfer those abilities to making the product. This is consistent with our finding that video related factors have higher predictive powers than product related factors for videos in fashion and design categories.

5. DISCUSSION

Many professional agencies produce campaign videos as if they were television advertisements. On average, a good video made by a reputable agency costs approximately 2,000 dollars. The cost increases from 3,000 to 10,000 dollars for higher production quality. This indicates that professional agencies likely follow a specific strategy to create effective campaign videos. However, new entrepreneurs often hesitate to spend that amount because of the lack of initial funding resources. We hope that our findings will provide initial guidance to novice entrepreneurs who want to make their own campaign videos.

What makes our work different from existing literature in the crowdfunding domain? Our quantitative analysis has shown that audio-video quality is one of the most important factors for evaluating campaign videos of the three campaign categories we explored, which implies that a bottom-up evaluation strategy is critical in the judgment process for crowd workers. More importantly, our study suggests that it is not sufficient to have *one* general guideline for all project categories; rather entrepreneurs should follow category specific strategies to make more persuasive videos. For example, we found that technology campaign videos should highlight product related cues to have a better persuasive effect on backers. Simple explanations and product demonstrations are key. On the other hand, design and fashion campaign videos should focus more on video related cues such as audio-video quality to enhance persuasion. This finding supports our initial intuition of a top-down approach that backers may use to evaluate products based on the cues that are utilized most heavily. This approach based on audience expectations can potentially be extended for making videos of other similar categories.

Our findings do not necessarily suggest that an effective campaign video alone guarantees success. Nor do we claim that incorporating these factors into campaign videos is the only means of making a campaign successful. The factors identified in our study are not exhaustive. Rather, we believe that other factors, such as the types of updates, the number of connections in social media, and the quality of the finished product are also important for the success of campaigns. However, our study provides some initial insights about how central and peripheral cues can be defined and utilized based on the project categories to create a persuasive video and to capture backers' attention promptly in an already crowded crowdfunding platform.

Campaign videos share the main goal of television advertisements, that is, to inform and persuade the consumer to buy a product. This similarity drew us to investigate whether theories applicable to television advertisements can also be useful for analyzing crowdfunding campaign videos. Of course, there are some differences between these two types of marketing videos that we observed through our study. Our qualitative analysis showed that explaining why one needs funding was considered as an important factor by the crowd workers. This is interesting because it seems to indicate that unlike television advertisement viewers, potential backers do not just want to give money to someone who already has it and then just receive the product in return. Instead, they may perceive that they are buying into the process itself in which they get to be not just consumers, but also catalysts for creation. This role as an investor in addition to the consumer may explain the desire for more seriousness from the campaign owners than humor.

Another possible way of analyzing videos is to conduct a visual content analysis which primarily extracts meta-features of a video. For example, the visual content analysis might identify the number of frames of a video in which a human face is detected. We decided not to follow this approach in our study because, from the perspective of a novice entrepreneur, these meta-features may not be practically useful while making a campaign video. The motivation of understanding the ways cues from campaign videos are utilized from the backers' perspective influenced us to design our study based on persuasive communication.

6. DESIGN IMPLICATIONS

We foresee that our work creates many opportunities to facilitate the process of making persuasive and effective videos for crowdfunding campaigns.

6.1 Implications for Campaign Owners

Our main finding that campaign videos of different project categories should apply category specific strategies for making videos, can help campaign owners understand that simply having a strong storyline for their videos is not sufficient. Rather, campaign owners need to know how people perceive their products and identify important persuasion cues, so as to generate a good initial plan for creating more effective videos. A well-defined plan for videos may also help campaign owners generate a storyline different from stereotypical ones.

Our findings indicate that crowdsourced MTurk workers can effectively evaluate campaign videos by pointing out their strengths and weaknesses. Keeping this in mind, imagine an online tool which would allow future entrepreneurs to seek feedback on their campaign videos from crowd workers before launching their campaigns. Because this online tool would be anonymous, this approach will allow entrepreneurs to receive emotionally unbiased opinions about the product and video related factors in an early stage of the video making process. This may help entrepreneurs revise their videos without the need to hire a professional, and then could gain additional insight by showing their revised videos to their friends and family [28]. Additionally, entrepreneurs could use this tool to interpret the strengths of archived sample videos [7] which is not always straightforward.

6.2 Implications for System Designers

In our study, we found that the perceived audio and video quality of a campaign video is a critical factor in predicting the success of a campaign. One way that system designers of crowdfunding platforms can help resolve this issue is by applying some basic filters in their campaign material submission website which can ensure an acceptable video and audio quality for all campaigns. For instance, the platform can prompt campaign owners to edit the video if the speech is not clearly audible or is indistinguishable from background noise or music. Similar suggestions can be made if the presenter or the main product is out of focus. Additionally, the platform can provide templates to future project owners to develop an awareness of what color contrast best fit video shots in indoor places versus outdoor places or in well-lit places versus darker places.

Applying a top-down approach by potential backers while evaluating a campaign video can have larger implications for crowdfunding platforms. In the future, crowdfunding platforms may streamline certain features specifically for campaigns of a specific category. For example, Kickstarter may encourage entrepreneurs in the technology category to include a straightforward demo of their products in their videos, which may help the campaign owners gain the backers' trust. Similarly, entrepreneurs in the fashion categories may consider putting more effort into visual effects to display a visually stunning product in their videos.

System designers can host a web-based tool to present the aggregated analytical profiles of the existing campaign videos for each type of product category separately. Each profile in this analytical tool could be defined based on the weights of the factors which will be measured using subjective ratings provided by MTurk workers. This web-based tool could assist campaign owners to visualize the predictive factors of the campaign videos based on their specific product type. Additionally, this would enable campaign owners to observe how the effects of different persuasive factors change depending on the marketing goals.

7. LIMITATIONS AND FUTURE WORK

Our study considered only three out of fifteen project categories from Kickstarter to analyze the impact of campaign videos. In the future, a large-scale study is needed to explore a greater variety of categories and factors of campaign videos that may influence the outcome of campaigns. To this end, it would be interesting to analyze the videos of public good campaigns such as campaigns in dance or theater categories. As the final products of these campaigns are not commonly a tangible product, the videos may need to highlight different factors to make these campaigns successful. In addition, we extracted the factors of the campaign videos based on the ratings and comments of crowd workers. We assumed that opinions of the MTurk workers would be comparable to these of the actual backers on Kickstarter since 29.05% of our participants backed at least one Kickstarter campaign. Future investigation is needed to empirically demonstrate similarities between backers on Kickstarter and MTurk workers in order to verify the effectiveness of the factors extracted in our study.

An interesting thing to look at in the future is the persuasion knowledge level of the crowd workers. For example, this could prove important to explain why an audience member dislikes the use or children or pets, especially if they know that those things are frequently used to try to persuade without being related to the message. Finally, in the future, we would like to collaborate with campaign owners during the campaign material preparation phase to experience how effectively campaign owners utilize the factors found in our study in their videos and how those videos affect the final outcome of campaigns.

8. CONCLUSION

Making a persuasive and understandable campaign video for a large audience takes many special skills. Moreover, understanding persuasive effects is difficult especially without any prior theoretical guidance. However, in a platform like Kickstarter, primarily built for novice entrepreneurs and artists, it is unlikely to find campaign owners with a high level of campaigning skills and experience. This inherent limitation often forces campaigns owners to seek help from professional agencies to make campaign videos. The process of getting the video made by agencies can cost thousands of dollars which is hard to arrange for new entrepreneurs who often have few resources to start with. We believe the product and video related factors explained in this study will help entrepreneurs to overcome this initial obstacle and encourage them to make campaign videos by themselves at a reasonable cost that better emphasize their communication skills.

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