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# **A CONFIGURATIONAL ANALYSIS OF SUCCESS FACTORS IN CROWDFUNDING VIDEO CAMPAIGNS**

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## **ABSTRACT**

Recent discussions on success factors on crowdfunding campaigns highlight a plentitude of diverse factors that stem from different, partly contradicting theories. We focus on campaign videos and assume more than one way of creating a successful crowdfunding video. We generate data of 1000 randomly chosen Kickstarter projects from the technology and design domain, and analyze those 715 campaigns that contain a video applying a fuzzy-set configuration analysis. Our results suggest that there are indeed several configurations of elements in videos that are correlated with different levels of success (equifinality) and that conditions leading to success are conceptually different from failure (causal asymmetry).

## **INTRODUCTION**

Although research around crowdfunding is still in its infancy, prior studies have discovered a high number of factors motivating the supporting behavior of so-called “backers” of crowdfunding campaigns (e.g., Belleflamme et al. 2013; Gerber et al. 2012; Hemer, 2011). Particularly, the existence of campaign videos has been shown to be a crucial factor that influences the backers’ behaviors (Mollick, 2014). Although these videos are the most frequently consumed artifact on crowdfunding platforms (Liu et al., 2014), we know surprisingly little to date about the characteristics of these videos (rather than their pure existence) and their impact on funding success. Yet, we do know from research in psychology and marketing that videos in general (e.g. advertisement videos) can strongly affect consumers’ buying behavior (e.g., Escalas 2007). Given that the largest number and the fastest growing form of crowdfunding is reward-based – i.e. relatively small funding that gets a product or service in return but no equity – (Massolution 2012), crowdfunding can be seen as a form of buying behavior. Campaign videos represent a key piece of artifact that defines the focal product and hence, should strongly influence the backing behavior. Our paper attempts to fill this gap in crowdfunding research by analyzing campaign videos and their impact on funding success or a lack thereof.

## **HYPOTHESES DEVELOPMENT**

Among the few theory-based studies to date, self-determination theory (Deci & Ryan, 1985) and signaling theory (Spencer, 1973) have featured prominently (e.g., Liu et al., 2014). Self-determining theory presents a spectrum of motivation ranging from intrinsic to extrinsic. Accordingly, for reward-based funding, backers might be driven by factors such as receiving the product first or for a lower price, (cf. Gerber et al., 2012), but also by factors such as feeling special or privileged, helping others, supporting a cause or contributing to a societally important mission (e.g., Hemer, 2011). Accordingly, backers could be reached by various unrelated elements in the video such as showing societal impact, innovativeness of the product, or the glamour of owning it.

Signaling theory assumes that individuals who lack full information may be particularly attuned to signals that may reflect unobservable characteristics, behavioral intentions, or private information (Spencer, 1973). As backers are likely to lack the financial sophistication and experience of venture capitalists, who are generally highly knowledgeable about valuing start-ups and assessing founding teams (Freear et al., 1994), backers might be influenced by campaign videos that signal trust, competence, feasibility or reliance in project or the team. This could be achieved by showing the team, the design or the product developmental process in the video.

Hence, drawing from existing theories, campaign videos could evoke potential backers in various ways. Empirical results for backing motivation in general (e.g. Belleflamme et al. 2013; Gerber et al. 2012; Hemer, 2011), likewise indicate several diverse success factors. Therefore, we assume more than one single way of creating a successful crowdfunding video. We rather expect more complex effects between intertwined elements in the video and posit that there might exist key success paths for successful campaign videos. We suggest that successful videos consist of more than one combination of conditions and that these combinations of conditions might have an asymmetrical relation towards success/lack of success.

## METHOD

### Sample

To test this assumption we analyze reward-based projects on Kickstarter.com applying a configurational approach. We restrict our sample to the domains Technology and Design because these groups focus mainly on tangible physical products rather than artistic creations. We generate data of 1000 randomly chosen products on Kickstarter projects in a one-month frame in 2016 using a web scraper. Among the projects, 715 projects contain a video. These 715 videos serve as our base for further analysis.

### Dependent variables

FsQCA conceives cases as combinations of variables. The basic units of analysis are then specific sets and sub-sets. Hence, in order to analyze set theoretic relationships, we first calibrate cases into their relative sets (Ragin, 2008). As the primary outcome of interest in our study is funding success, we examine not only which combinations of our independent variables led to successful funding, but also which led to the absence of funding. Since set relationships aren't necessarily symmetric (Ragin, 2008), we created several dependent variables: funding success (*success*) which takes the value of 1 if the project meets or exceeds the funding goal, which is the case for 262 out of the 715 projects in the dataset. To explore the reasons for project failure, a variable for funding failure is generated (*failure*), taking the value of 1 if the project fails to achieve funding. This covers 453 projects, and is logically the opposite of success. Finally, we include the share of funding goal achieved (*achieved*) ranging from 0% to 580%, standardized around the mean with 0 and 1 as upper and lower limits respectively.

### Independent variables

In addition to the dependent variables, several independent variables are applied to explore the specific configurations leading to funding success or failure. For deciphering the independent variables, we watched each of the 715 individually and coded them for the several elements of the product or the video. Our independent variables use a combination of different elements of the project and video, and are merged based on both a theoretical understanding of their effects and an

exploratory factor analysis, seeking to identify commonalities between different characteristics. Only when we find a theoretical and empirical connection between two variables are these merged (cf. Table 1).

### **Analytical procedures**

To analyze our data, we conduct a fuzzy-set qualitative comparative analysis (cf. fsQCA.com; Ragin, 2008). FsQCA is an exploratory technique that supports meaningful interpretations of patterns displayed by the data (Ragin, 2008). FsQCA analyzes cases and outcomes as specific configuration of elements that combined produce the observed outcome(s) (Fiss, 2007). That is, all possible combinations of independent variables are tested to see if, and to what extent they can be considered to cause the dependent variable. In doing so, fsQCA relies on Boolean algebra and set theory to estimate the specific combinations of elements in the video that associate with funding success or with failure. It hence allows for finding patterns in videos to make sense of which combinations of elements lead to successful campaigns.

We followed a three-step procedure, which we apply for all sets (success, failure, achieved). In a first step, we create a truth table that shows all logical possible combination of variables together with their relative scores—i.e., the number of firms in the sample displaying that causal condition and their empirical importance within the sample. We then use Boolean logic to reduce the table to a few statements indicating necessary and sufficient conditions. Thereby, we follow two criteria: (1) the minimum number of cases for a solution to be considered relevant for the analysis, and (2) the minimum consistency level of a solution. The first criterion ensures that the cases analyzed are empirically important. We follow Ragin (2008) and set the minimum number of cases for a solution to be considered relevant  $>5$  thus, dropping all solutions for which there was either one or no case. The second criterion ensures that each set relationship analyzed is consistent with the idea that the causal recipe is a subset of the outcome. Hence, the consistency level informs the researcher on the degree to which the SMEs correspond to the configurations expressed in a solution. We set the minimum consistency threshold to 0.75 (as recommended by Ragin, 2006, 2008).

After the truth table has been reduced to include only empirically relevant cases, we preceded the analysis by logically reducing the truth table row to simplified combinations of configurations (Ragin, 2008). We performed all three steps by employing an algorithm based on Boolean algebra using the fuzzy QCA function in STATA 13.

## **RESULTS**

Our results confirm the importance of videos as 92.28% of successful crowdfunding campaigns contain a video. The results are presented in table 1, showing the configurations affecting three different outcomes, success, failure and amount of funding received. For a given configuration, each element is noted in upper case (e.g. DES) if it has a positive influence on the outcome, and in lower case (e.g. des) if it has a negative influence. If an element does not appear for a given configuration, it is irrelevant for that configuration.

For *success* subset, our results show three complementary solutions (configurations) leading to success in reaching the funding goal (solution 1a-c). All three solutions are for technology products. The first configuration (1a) is characterized by the combination of happy music, absence of personal endowment, insights into fabrication process and team (“behind the scenes”), a formal endorsement, a clear audio and video communication, competence, product showcase, and social mimicry. The second configuration (1b) confirms the conjoint presence of happy music, absence

of personal endowment, behind the scenes insights, formal endorsement, clear audio and video communication, competence, and product showcase as necessary elements for success. However in this second solution, the elements are coupled with a high funding goal and the absence of social mimicry. Similarly, the third solution (1c) reveals that the conjoint presence of a high goal, absence of personal endowment, behind the scene insights, a formal endorsement, clear video communication, competence, and product showcase as necessary elements for success. However in this third solution, audio communication is irrelevant, and the elements are coupled with a serious music.

The fact that three configurations may lead to success is revealing equifinality. In other words, the three solutions represent alternative causal routes to success. The fact that the combination of behind the scene insights into, formal endorsement, clear video communication, competence, and product showcase and the absence of absence of personal endowment, is shared by all configurations is suggestive for the fact that these elements are core conditions for success. Combined with the remaining factors high goal, music, clear audio communication and social mimicry (=peripheral conditions), they form sufficient conditions. By means of the coverage scores (cf. Table 1) we can evaluate the empirical importance of the different causal paths (Fiss, 2011). The result indicates that the core conditions combined with the peripheral conditions produce three causal paths that are characterized by a similar degree of empirical importance (e.g., coverage .013, .024 and .020).

As we assume that the configurations leading to failure and success are not necessarily symmetric, we extended the analysis to the set of non-successful (failure), and relatively successful (achieved) video campaigns, to improve our understanding about the different elements on campaign success (cf. Table 1). For the *failure*-set, we identify nine causal paths. Six paths are related to technology products, one for design products and two are for general failure. The solutions reveal that for technology products, the absences of any endorsement (personal and formal) are core causal factors. Also the absence of social mimicry, fabrication showcase and team, and the presence of high funding (five out of six solutions) can be seen as core factors. The factors serious music, absence of clear audio and visual communication, competence vs. warmth, product showcase vs. absence of product showcase can be considered peripheral. For failure in design products and general failure, our results reveal seven core conditions – the presence of high funding goal, and competence coupled with the absence of endorsements, fabrication and team processes, product showcase and social mimicry. The remaining factors can be considered peripheral.

For the *achieved*-set, we identify five causal paths for design products, two for technology products and one general achievement solution. For the design products, the absence of a high funding goal, and personal endorsement coupled with the presence of competence, product showcase are core causal factors. Happy music and a clear video communication can be seen as peripheral conditions. For the remaining factors it is less clear. We see both the presence and absence of behind the scene insights, clear audio communication and social mimicry. For technology products the amount of money pledged (goal) is irrelevant. Presence of a clear audio communication, product showcase and competence coupled with the absence of endorsements and behind the scene insights are core factors whereas video communication and social mimicry are peripheral elements.

Analyzed in the light of the results from the analysis of causal paths leading to failure, these results confirm the importance of an asymmetric understanding of causality.

## DISCUSSION AND IMPLICATIONS

Our results show that there is a major difference between design and technology products. For technology products results reveal clear success factors; for design products it is more difficult. Whereas the clear funded/not funded set (*success*) does not reveal any particular configurations for design products, the relative success compared to the amount of funds sought by the project (*achieved*), results show that videos in the design domain benefit from emotional factors such as positive music and a clear video communication, whereas the product itself is of less importance. This result support to some extent the emphasis on intrinsic factors as supported by self-determination theory.

For video campaigns for technology products, on the contrary, the amount of money asked for is irrelevant. Rather factors that relate the potential backer to the team or product such as behind the scene insights of fabrication process and team, social mimicry and a product showcase seem to be important elements for success of a campaign. This partly supports signaling theory. For relative success, videos for technology product are better of leaving out many factors such as endorsements or behind the scenes insights and only focus on showcasing the product.

The most important factor for non-successful campaigns is the high amount of funds sought by the project. Besides that, for technology products, videos without any endorsement or social mimicry, and behind the scene insights, seem to be failing most often. The results for design products are similar.

Taken together, we find support for both theoretical lenses. The most discerning factor for whether self-determination theory or signaling theory works better for explaining the success factors of crowdfunding videos strongly depends on the category of the product. Our results also show that the content and quality of the video becomes less important when the amount of money asked for is too high.

We contribute to the literature on crowdfunding in several important ways: Our study is one of the first that analyzes crowdfunding videos. Although video is the most frequently consumed artifact on crowdfunding platforms, research has mainly focused on more general success factors and results have been mixed, and thus, supported several, partly contradicting theories. By explicitly considering configurations of causal conditions and asymmetry of set-theoretic relationships in analyzing the videos, we overcome limitations of methods assuming linearity and additive effects. More specifically, we identify sets of causal patterns associated with the presence/absence of funding success. We reveal equifinal paths to success but also causal asymmetry. Hence, by uncovering several key success paths that address conceptually different motives, we solve seemingly theoretical contradictions based on prior research suggesting different reason for backers to invest in crowdfunding projects. Therefore, our study provides a more fine-grained explanation about the relationship between elements of crowdfunding video campaigns and funding success by highlighting equifinal paths for achieving success. We hope that this study encourages others to continue addressing this and other complex phenomena in entrepreneurship by means of configurational approaches. Understanding complex patterns better will improve theory building in entrepreneurship research.

Table 1 – Configurations affecting funding success (1a-1c), failure (2a-2i) and relative amount of funding received (3a-3j) based on fuzzy QCA

Configuration number	Design product (DES)	Goal (GOA)	Music (MUS)	Personal Endorsement (PER)	Behind the scenes (SCE)	Formal endorsement (FOR)	Clear audio communication (AUD)	Clear video communication (VID)	Competence (COM)	Product showcase (SHO)	Social mimicry (SOC)	Coverage	Consistency
1a	des		MUS	per	SCE	FOR	AUD	VID	COM	SHO	SOC	0.013	0.898
1b	des	GOA	MUS	per	SCE	FOR	AUD	VID	COM	SHO		0.024	0.898
1c	des	GOA	mus	per	SCE	FOR		VID	COM	SHO	SOC	0.020	0.968
2a	des	GOA	mus	per	sce	for	aud	vid	COM	SHO		0.058	0.901
2b	des	GOA	mus	per		for	aud	vid	COM	SHO	soc	0.059	0.9894
2c	des		mus	per	sce	for		vid	COM	sho	soc	0.074	0.922
2d	des	GOA		per	sce	for	aud		com	sho	soc	0.010	0.994
2e	des	GOA		per	sce	for		vid	COM	sho	soc	0.056	0.956
2f	des	GOA		per	sce	for	aud		COM	SHO	soc	0.079	0.910
2g		GOA	mus	per	sce	for	AUD		COM	sho	soc	0.041	0.936
2h	DES	GOA		per	sce	for		VID	COM	sho	soc	0.015	0.912
2i		GOA		per	sce	for		VID	COM	sho	soc	0.054	0.966
3a	DES	goa	MUS	per	sce	for	aud	VID	COM	SHO		0.067	0.907
3b	DES	goa	MUS	per	sce		aud	VID	COM	SHO	soc	0.047	0.895
3c	DES	goa	MUS	per		for	aud	VID	COM	SHO	soc	0.051	0.883
3e		GOA	MUS	per	SCE	for	AUD		COM	SHO	SOC	0.054	0.915
3f	des			per	sce	for	AUD	vid	COM	SHO		0.071	0.856
3g	des			per	sce	for	AUD	VID	COM	SHO	soc	0.068	0.863
3h	DES	goa		per	sce	for			COM	SHO	soc	0.159	0.765
3i	DES	goa		per	SCE	for	AUD		COM	SHO	SOC	0.041	0.979
3j	DES			per	SCE	for	AUD	VID	COM	SHO	SOC	0.053	0.884

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