

Examining the Effects of Vocabulary on Crowdfunding Success: A Comparison of Cultural and Commercial Campaigns

Xiang Gao^a, Weige Huang^b, Bin Li^c, Sunghan Ryu^{d,*}

^a Associate Professor, Research Center of Finance, Shanghai Business School, China

^b Assistant Professor, Wenlan School of Business, Zhongnan University of Economics and Law, China

^c Assistant Professor, Raj Soin College of Business, Wright State University, USA

^d Associate Professor, USC-SJTU Institute of Cultural and Creative Industry, Shanghai Jiao Tong University, China

ABSTRACT

Crowdfunding has emerged as an important financing source for diverse cultural projects and commercial ventures in the early stages. Unlike traditional investment evaluation, where structured financial data is critical, such information is typically unavailable for crowdfunding campaigns. Instead, campaign creators prepare pitches containing essential information about themselves and the campaigns, which are crucial in attracting and persuading contributors. Prior literature has examined the effects of different aspects in campaign pitches, but a comprehensive understanding of the theme is lacking. This study aims to fill this gap by identifying the lexicon of frequently used vocabulary in campaign pitches and examining how they are associated with crowdfunding success. Moreover, we examine how the association differs between culture and commercial crowdfunding campaigns. We randomly collected 50,000 campaigns from the cultural and commercial categories on Kickstarter and extracted the 100 most used verbs in the campaign pitches. Based on a machine learning approach combined with principal component analysis, we constructed sets of verbal factors statistically significant in predicting crowdfunding success. The findings also show that cultural and commercial campaigns consist of different verbal components with different effects on crowdfunding success.

Keywords: Crowdfunding, Campaign Pitch, Creator, Lexicon Analysis, Machine Learning

1. Introduction

Crowdfunding is a new fundraising method for

creative projects, social causes, and ventures (Mollick, 2014; Ryu, 2019). Funds are raised from many contributors, and each participant contributes a relatively

* Corresponding Author. E-mail: shryu@sjtu.edu.cn

small amount through an online platform. In the past, early-stage financing of promising ventures was limited to a small circle of experts. Regular individuals found it difficult to gain access to opportunities to get involved even when they had a strong willingness and financial resources. The emergence of crowdfunding has lowered these barriers (Ryu et al., 2020; Shneur and Munim, 2019; Zheng et al., 2018). On the other side, crowdfunding gives individuals and organizations another way to raise capital outside of the experts, allowing them to turn to society for their projects (Dern, 2014; Ryu and Kim, 2018). The crowdfunding expansion is good news for creators with new ideas across disciplines because it opens large opportunities outside of the limited traditional financing channel, giving them a new route to success and the sustainable development of their projects and careers. In the beginning phase of crowdfunding, there was a relatively small market for early adopters; however, the overall crowdfunding industry has been expanding and now accounts for a market size comparable with the traditional players such as the venture capital industry. For example, as of March 2020, Kickstarter, a representative crowdfunding platform based in the United States, has raised \$4.8 billion from more than 17 million people for approximately 180,000 campaigns since its launch in 2009.¹⁾ The major categories for campaigns launched on Kickstarter are film, music, design, and technology, followed by other relatively minor categories such as the arts, comics, food, craft, games, and publishing.

Previous studies on crowdfunding have focused on the importance of different factors influencing in-

dividual contribution behavior and, ultimately, crowdfunding success (Ryu et al., 2021). The identified determinants include the characteristics of crowdfunding campaigns and creators (Davis et al., 2017; Kaminski and Hopp, 2019; Mollick, 2014; Ryu and Kim, 2018), the creators' social networks (Colombo et al., 2015; Skirnevskiy et al., 2017; Zheng et al., 2014), and information on campaign progress (Crosetto and Regner, 2018; Kim and Viswanathan, 2018; Kuppuswamy and Bayus, 2017). More recently, a new stream of literature started to examine the effects of campaign pitches, in which creators present the campaign to be crowd-funded, on crowdfunding success. The literature demonstrates that crowdfunding success depends on the effective representation of the relevant information. Individual contributors' funding decisions also depend on the limited information provided by the creator; the campaign pitch certainly captures the core of this limited information (Davis et al., 2017; Kim and Viswanathan, 2018; Parhankangas and Renko, 2017).

Yet, evidence of how the different vocabulary used in a campaign pitch affects crowdfunding success is missing from the literature. This study explores how the words, especially verbs, used most frequently in campaign pitches affect crowdfunding success. We focus on verbs, given that they play an essential role in English grammar and have many assignments (Grimshaw, 1993). We also examine how the roles of the verbs vary for different categories of crowdfunding campaigns: commercial (design and technology) versus cultural (film & video and music) projects. We are specifically interested in addressing two research questions: (1) *Does the use of specific vocabulary sets in a crowdfunding campaign pitch increase the likelihood of crowdfunding success?* (2) *How do the effects of these vocabulary sets vary across different types of crowdfunding campaigns?* Unlike traditional investment evaluation, where there is abundant financial

1) Kickstarter is a US public-benefit corporation based in Brooklyn, New York, that maintains a global crowdfunding platform focused on creativity and innovation. For more details, visit its official website: <https://www.kickstarter.com/help/stats>.

data, an informational campaign pitch might be the most direct channel that links creators and contributors, facilitating the sustainable development of this industry.

We compile a data pool of Kickstarter campaigns from January 2016 to December 2019 and choose 50,000 observations randomly from the four categories, technology, design, film, and music, in that pool. Our identification strategy uses a least absolute shrinkage and selection operator (LASSO) approach with logit regressions and principal component analyses (PCA). As for specific steps, because verbs are less emotive, we first pick out the top 100 most frequently used verbs from the pitches of the 50,000 campaigns and construct 100 variables with respect to the counts of these verbs in each campaign's pitch. Then, we adopt a common machine learning algorithm, LASSO, to select verbs as indicators with the strong predictive power of a predefined object, which is fundraising campaign success in our model. Next, we employ factor analysis to reduce the number of dimensions of the LASSO-selected variables with a PCA approach, resulting in a handful of sets of components. Finally, we use a logit model to check if using these components is significantly associated with crowdfunding success. The results show that almost all of those LASSO-screened verbs exhibit statistical and economic significance for forecasts of campaign success, amount pledged, and the number of contributors. Our results and proposed word screening procedure remain robust to alternative non-verb words and more controls. Moreover, it works well if one deletes uninformative words or replaces them with synonym key verbs identified in this paper.

We find that the vocabulary sets used in commercial and cultural campaign pitches differ and that specific vocabulary sets are associated with the likelihood of crowdfunding success. We also find that these effects differ between commercial and cultural crowdfunding

campaigns. In particular, the effect of using the vocabulary sets turns out to be different between cultural (e.g., campaigns in genres such as film, video, and music) and commercial campaigns (e.g., campaigns in the design and technology category). This finding implies that the set of verbs that are important to cultural campaigns' success may not be important to the success of commercial ones. Thus, from the creators' perspective, one should focus on using verbs positively correlated with the success of a certain type of campaign and avoid negatively correlated verbs.

This study contributes to the crowdfunding literature, specifically to the recently emerging strand exploring the role of campaign pitches in crowdfunding success. While the extant literature focuses on the style or narrative aspects of the text, our approach is unique because we emphasize the use of particular sets of vocabulary. In addition, we also contribute to the literature on entrepreneurial pitches in the early stages of financing in general. Practically, both campaign creators and organizers of crowdfunding platforms could benefit from our findings in preparing and facilitating better-designed crowdfunding campaigns. Investors may also benefit from the mitigation of the information asymmetry problem.

II. Literature Review

2.1. Notions of Crowdfunding

Crowdfunding is an initiative to raise money for a creator's campaign by collecting small amounts of funding from the public through the online platform (Mollick, 2014; Ryu and Kim, 2018). Crowdfunding has expanded dramatically in recent years, helping creators from diverse domains access nontraditional funding, test novel ideas, and build supportive communities. Three main entities are engaged in

crowdfunding (Belleflamme et al., 2014). The first entity is the creator, who launches new campaigns and seeks funding from potential contributors, who are the second entity. Contributors decide whether to support the campaigns or not, driven by intrinsic motivations (e.g., altruism and fun), extrinsic motivations (e.g., cash and stocks), or both (Ryu and Kim, 2016). The third entity is the platform, which brings the other two players on board and provides an opportunity for exchanging values (Ryu and Suh, 2021). Most crowdfunding platforms have four common properties: a standardized format for creators to pitch their campaigns, a payment system allowing small financial transactions, a display of funding progress and tools for creators and contributors to communicate with others (Agrawal et al., 2015).

Specifically, crowdfunding contributes to our society in at least four aspects (Ryu, 2019). First, it addresses the lack of funding channels, a long-lasting challenge in diverse domains, such as businesses, arts, and social causes. In some respects, launching a crowdfunding campaign is more productive in promoting a product or idea to potential contributors than reaching out to institutional investors. Second, crowdfunding helps creators test their products and ideas. In addition to testing ideas, creators can leverage crowdfunding to identify and validate their target markets. Third, crowdfunding builds a new support community for creators. This community is a vital part of any successful crowdfunding campaign and the resources expected during and after the campaign. Finally, crowdfunding allows creators to pursue independence in their work, which is essential to accepting the risk required to develop innovations. Although crowdfunding is still in its early stages, it has the potential to address existing biases. Technological advancement allows society to evaluate the attractiveness and feasibility of innovations rather than only the experts.

2.2. Success Factors of Crowdfunding Campaigns

Because of the importance of crowdfunding, researchers from different disciplines have studied the phenomenon. We review the literature on crowdfunding, focusing on the important factors influencing individual contributors' funding decisions and what drives successful crowdfunding campaigns. The literature is divided into four streams, focusing on (1) the characteristics of the creator and campaign, (2) social influence or creators' networks, and (3) information on campaign progress.

First, the characteristics of creators and campaigns play a significant role in attracting contributors' attention and thereby influencing campaign outcomes. Creators' social networks (Lin et al., 2014; Mollick, 2014), educational backgrounds (Ahlers et al., 2015), and geographical location (Agrawal et al., 2015; Lin and Viswanathan, 2016) have all been shown to affect contributors' behavior and ultimately the success of a campaign. Campaign design components such as duration, goal, and inclusion of a video on a campaign site are all associated with success (Mollick, 2014). Reward limits, restricting the number of contributors for each reward tier, are beneficial for a campaign, specifically at the beginning of the campaign (Yang et al., 2020). From the platform design perspective, permission to control the disclosure of funding information has been found to simultaneously increase the probability of a larger number of contributions and decrease the amount of each contribution (Burtch et al., 2015).

Second, a creator's social network is an effective cue for potential contributors (Cai et al., 2021; Madrazo-Lemarroy et al., 2019). It is also well-established that peer effects drive demand for a crowdfunding campaign, indicating the effect of social influence on individual funding decisions (Liu et al., 2015).

The distance between a creator and potential contributors is important in explaining social influence (Agrawal et al., 2015; Lin and Viswanathan, 2016). Local contributors are more likely to pledge in the early stages of the funding period than distant contributors. They are also less sensitive to information about the cumulative amount of funding. Engagement within a crowdfunding community also predicts the crowdfunding campaign's success (Colombo et al., 2015; Yang and Hahn, 2015).

Third, the funding progress affects how potential contributors react (Agrawal et al., 2015; Burtch et al., 2013). In the crowdfunding context, contributors show different patterns in making contributions to a campaign at different stages of its funding cycle (Kuppuswamy and Bayus, 2017; Ryu et al., 2020). The motivation of contributors decreases after a goal is attained. Contributions will also decrease significantly after reaching the target goal (Kuppuswamy and Bayus, 2017). By contrast, in the earlier stages, contributions to a crowdfunding campaign tend to increase as the funding approaches its target goal. This effect is stronger during the final days of a campaign. Kim and Viswanathan (2018) have documented that early contributors with expertise can strongly influence later contributors.

2.3. Effects of Crowdfunding Campaign Pitch

In addition to the crowdfunding literature streams, an emerging line of research around crowdfunding focuses on the signals sent by campaign pitches' verbal and non-verbal content (Davis et al., 2017; Kim and Viswanathan, 2018; Parhankangas and Renko, 2017). For example, Parhankangas and Renko (2017) put more effort into the linguistic style of campaign pitches. They find that four linguistic styles—concrete,

precise, interactive, and low psychological distance language—have a more prominent effect on the success of social campaigns than on commercial campaigns. Anglin et al. (2018) discover that campaign pitches that include passion and optimistic narratives are positively associated with crowdfunding performance. Similarly, Allison et al. (2015) show that both intrinsic and extrinsic cues embedded within campaign narratives in the microlending context could impose positive influences on funding outcomes. Lee et al. (2019) determine that crowdfunding outcomes could be enhanced with positive affective and perceptual language in the civic crowdfunding context. Zhou et al. (2018) connect the campaign success to readability and the tone identified based on the full campaign pitch. Kaminski and Hopp (2019) examine how textual and linguistic components of campaign pitch would influence outcomes in crowdfunding campaigns. Chan et al. (2020) found that campaign pitches of high and low readability receive more favorable screening evaluations for different reasons. They identified that highly readable pitches are generally valued as they make it easy for contributors to process information. In contrast, less readable pitches are recognized because contributors may perceive the creators to possess better capabilities. More recently, a pioneering stream of literature has investigated the impact of a pitch video on crowdfunding outcomes. For example, Li et al. (2021) find that the effective use of nonverbal cues in a pitch video is related to funding success.

However, we are still unclear about the exact effects of campaign pitch content on crowdfunding success. The missing element in crowdfunding research is an exploration of campaign pitches' linguistic characteristics and their effects using a lexicon method. More knowledge and awareness of this element will surely provide us with a deeper understanding of

what contributes to popular, successful crowdfunding campaigns. Our study aims to close this gap.

2.4. Linguistic Cues in Crowdfunding Projects

Since startups behind crowdfunding projects are often tiny and have no reputation or goodwill, it is difficult for the sponsor to learn the specific information of the project outside the project website when the potential sponsors and initiators do not have a chance to communicate with each other. On the Kickstarter platform, the project description consists of two parts: an eye-catching brief blurb that can be seen everywhere and a page of introduction and entrepreneurship story that can only be viewed after clicking. The information greatly reduces the information asymmetry of crowdfunding activities (Beier and Wagner, 2015; Dikaputra et al., 2019). Gosain and Agrawal (2021) have defined the story partly as narration, mainly including the past development process, current development status, and future development goals (Manning and Bejarano, 2017). The word number ratio will affect the decision-making of potential contributors (Gafni et al., 2019; Koch and Siering, 2015) and the result of crowdfunding (Zhou et al., 2018). A positive and optimistic description or word can increase the chance of success (Zhou et al., 2018), while a description or word that highlights the feelings, emotions, concern, ambition, and sense of urgency can enhance the effectiveness of narration (Leone and Schiavone, 2019; Zhang et al., 2020). With complete information, the narration should be as clear, brief, and concise as possible (Leone and Schiavone, 2019).

As an alternative to narration, blurbs are the epitome of the highly generalized introduction. Short and concise, it can make a first impression on potential

contributors in the shortest time. It is the key to stimulating people's interest and encouraging them to click the details page. Theoretically, the blurb should be similar to narration and even stronger for potential contributors who are not willing to read carefully from the beginning to the end.

III. Theoretical Framework

The crowdfunding literature has widely employed the signaling theory to understand communication between creators and contributors (Ahlers et al., 2015; Connelly et al., 2011; Courtney et al., 2017). Signaling theory fundamentally focuses on reducing information asymmetry between signalers and receivers (Connelly et al., 2011; Courtney et al., 2017; Spence, 1973; Spence, 2002), occurring because signalers have private information that receivers need to make decisions (Spence, 2002; Stiglitz, 2002). Accordingly, creators and contributors have considerable information asymmetry (Bapna, 2019). Creators may have private information about their inherent quality and might attract potential contributors if they had that knowledge. Contributors could draw information from various startup signals (Ahlers et al., 2015; Alsos and Ljunggren, 2017).

Because there is considerable information asymmetry between the two parties in the crowdfunding context, potential contributors are exposed to a high level of risk and uncertainty when making a funding decision. Thus, contributors seek cues with the potential to mitigate the risk and uncertainty so that predicting campaign success is more accurate. Creators could also address the information asymmetry by signaling their competence. The literature has focused on identifying and examining signals facilitating the participation of potential contributors, such as the human

and social capital of creators and the quality of the campaign (Buttice et al., 2017; Colombo et al., 2015; Kang et al., 2017).

To signal their competence and thus promote their funding success, creators should strategically leverage campaign pitches as a vital marketing tool to influence potential contributors' funding decisions (Kaminski and Hopp, 2019; Parhankangas and Renko, 2017). The campaign pitch is almost the only information available to potential contributors that can help form expectations and the belief that the creator possesses the required knowledge and resources to manage the campaign (Mollick, 2014). Therefore, information shared through the campaign pitch could perform as quality signals, reducing the perceived risk of the crowdfunding campaign and leading to a higher likelihood of contribution. In this regard, the content and language of the campaign pitch on the crowdfunding page can be considered a comprehensive signaling mechanism. Moreover, potential contributors receive the signals through different information processing, resulting in different responses to the signal (Adaval and Wyer, 1998).

Scholars concerned with the content and language of pitches examine how creators' communication about their campaigns and themselves is essential for persuading stakeholders to provide resources (Roundy and Asllani, 2018). One stream of studies suggests that content and appropriate language use should help obtain resources by delivering comprehensive messages for and about a creator (Lounsbury and Glynn, 2001). These creators' discourses shape perceptions about the potential of campaigns and thus improve the likelihood of success (Gafni et al., 2019). Entrepreneurial discourse is not merely a delivery of the message but also plays a formative role in the processes enabling creators to build and scale campaigns (Lounsbury and Glynn, 2001; Roundy and

Asllani, 2018).

As reviewed in 2.3, the literature stream has examined how creators' discourses in the crowdfunding setting could be a quality signal (Anglin et al., 2018; Parhankangas and Renko, 2017). And the literature contributes to understanding the role of discourse in the crowdfunding context. However, several essential issues remain unanswered. More specifically, it is not clear which sets of words constitute the crowdfunding discourse. The existing literature focuses more on the consequences and outputs of the discourse, such as the likelihood of campaign success or performance. Surprisingly, the literature rarely addresses the characteristics and components from the input viewpoint. For example, previous studies have not attempted to identify if the language used in the crowdfunding pitches comprises a common lexicon, let alone which vocabulary is prevalent in the phenomenon of crowdfunding. This neglect of the input side is a critical missing element in understanding crowdfunding. The content of campaign pitches plays an essential role in reducing the investment uncertainties due to information asymmetry associated with crowdfunding campaigns. Besides, some studies suggest that the discourse may help creators leverage resources by delivering a distinctive identity (Lounsbury and Glynn, 2001; Martens et al., 2007).

In crowdfunding platforms like Kickstarter, various types of campaigns from different domains are launched and funded. In this study, we propose that the effect of campaign pitches depends on which category or domain each campaign is classified into; thus, whether it belongs to the commercial or cultural category matters. By commercial categories, we mean campaigns seeking to develop new products or services for consumer markets, such as the technology and design category. The primary goal of campaigns that fall into the cultural categories, such as film and music,

is to create a new form of content conveying and delivering cultural values. Whereas the commercial category relies primarily on achieving business aims, the cultural category is aimed at non-commercial social values in addition to modest commercial interests. Thus, this study suggests three interrelated and exploratory propositions:

Proposition 1. *The use of specific verb sets in a crowdfunding campaign pitch is associated with the likelihood of crowdfunding success.*

Proposition 2. *Commercial and cultural crowdfunding campaign pitches contain different verb sets.*

Proposition 3. *The effects of the verb set on the likelihood of crowdfunding success differ between commercial and cultural crowdfunding campaigns.*

IV. Empirical Setting

4.1. Data

We collect campaign-level data from Kickstarter, one of the world's largest crowdfunding platforms in the United States. In small capital financing for new business ventures, many studies use the Kickstarter platform to explore determinants of crowdfunding campaign support and success (Dai and Zhang, 2019; Kuppusswamy and Bayus, 2017; Thies et al., 2018). This dataset fits our scope of the study for two reasons. First, we highlight the effect of words in campaign pitches in non-commercial categories. Cultural campaigns account for a sizable proportion of the Kickstarter community, distributed across subcategories. Second, Kickstarter gets more

coverage from the media and bloggers, attracting a broad base of potential contributors who might make decisions depending only on the wording of pitches.

According to the campaign initiation date, the sample period spans from January 2016 to December 2019. For each observation, our data pool includes information on its campaign types (only four major classifications are retained) "design," "technology," "film & video," and "music."²⁾ They are grouped into two categories: commercial for design and technology and cultural for film and music. Instead of using the whole dataset, we draw 50,000 crowdfunding campaigns to capture random variations in creators' choice of descriptive words in the campaign pitches.³⁾ This treatment mitigates selection bias, demonstrated by similar results when the sampling process is repeated several times.

4.2. Variables

Among all the project outcome indicators, the main dependent variable in our analyses is Final Status, a dummy variable that equals one if the project is successfully funded (i.e., the state is successful) before

2) The justification for this categorization is based on the reasoning that campaigns of design and technology usually have more commercial elements and the ones of film and music are generally cultural-related. For instance, the natural difference between commercial and cultural is that commercial has focused more on profits hence should be less related to emotional factors. We also note that the average goal amounts for design, technology, film, and music are 0.04, 0.1, 0.12, and 0.01 (in millions of US dollars), respectively. And the average goal amounts for commercial and cultural are 0.08 and 0.06, respectively. These show some differences between commercial and cultural categories.

3) We compose the dataset that includes all categories of campaigns and select these four categories and we select these four categories out of the entire, resulting in 77,392 campaigns in our dataset. We again randomly select 50,000 from the dataset.

its funding cycle concludes and zero otherwise. Given the so-called “all-or-nothing” rule of Kickstarter, no money pledged by the contributors will be transferred to the creator, given that the project is not fully funded within a pre-specified end time. As a result, conditional on campaign success, we also employ alternative project outcome proxies, namely the amount pledged and the number of contributors, to measure the effect of verbs on the degree of success.

Regarding the independent variable of interest, whereas it is convenient to check whether a word has appeared in one sample pitch, the challenging task is determining which words to include on the right-hand side of the regression. A word cloud of the words that appear most frequently in the campaign pitch section of the drawn projects suggests disturbances from words with implicit emotions. Therefore, we focus on verbs only. First, we extract the top 100 most frequently used verbs throughout the entire corpus.⁴⁾ Whereas expanding our list of 100 seems to scatter the strength of words, we check and report the robustness of the results when only the top 50 most frequently used verbs are retained in this first step.

Next, we create 100 count variables to indicate how

4) The commonly-used 100 verbs are (modal verbs in italics): allow, amaze, back, become, bring, build, call, *can*, change, come, complete, control, create, debut, design, don't, dream, end, feature, find, finish, follow, fund, get, give, go, happen, help, hop, hope, join, keep, know, learn, let, live, look, lose, love, make, meet, *must*, need, open, order, perfect, play, produce, put, raise, release, save, see, set, share, show, start, stop, support, take, track, travel, try, turn, use, want, watch, water, *will*, work, write, lead, process, run, *cannot*, connect, dance, *may*, source, launch, limit, search, enjoy, print, program, campaign, reach, promote, mind, top, provide, kit, tell, fight, fall, explore, shoot, buy, sound, pay. We note a limitation of this research. That is, some of the verbs can also be nouns or adjectives, for example, “design”, “dream”, “perfect”, “program”, etc. We have to admit that in practice, it is quite difficult (via coding) to distinguish between nouns and verbs for a word such as programs. We will leave this for future research.

many times each verb has appeared in a campaign pitch under consideration. For example, suppose the term “allow” shows up twice in the descriptive sentences for a single campaign. The value of the variable related to this particular verb equates to two for that campaign. In addition, when inspecting the frequency of these frequently used verbs, we take no account of grammatical tenses. For instance, different forms of the word “allow,” such as “allowed,” “allowing,” and “allows,” are all treated as the same word.⁵⁾

Finally, we employ a regularization type of machine-learning algorithm to cherry-pick, out of the 100-word pool, those verbs with the strongest predictive power. Their identity and optimal number are simultaneously determined. Then, a follow-up logit model is run to confirm whether verbs that stand out do indeed forecast the success of our sample crowdfunding campaigns. In other words, the variables selected by the machine learning algorithm need to be economically and statistically significant for further interpretative analyses.

For control variables, we adopt the total number of words contained in the campaign pitch, goal amounts, and final amounts (i.e., the amount that the creator intended to raise, compared with the actual amount pledged at the end of the funding period). We also include the state-changing year (i.e., when the funding status changed from live to successful, failed, suspended, or canceled), campaign creation year (i.e., when the creator began designing and editing the relevant materials) and campaign launching year

5) We note that the verbs selected in our research on average show up 1.6 times in 100 blurbs. We do not have missing values because we count how many times a verb shows up in a blurb. If a verb does not show up in a blurb, the value for the verb for the campaign is zero. If the verb shows up twice, the value will be two. Thus, in our dataset, we do have lots of zeros because one blurb usually includes only a few verbs selected.

<Table 1> Summary Statistics

| | Final Status | Amount Pledged | N of Contributors | N of Words in Blurb | Goal Amount |
|--------|--------------|----------------|-------------------|---------------------|-------------|
| Min | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 |
| Mean | 0.52 | 23.03 | 1.51 | 19.40 | 0.07 |
| Median | 1.00 | 1.71 | 0.26 | 20.00 | 0.01 |
| Max | 1.00 | 146971.92 | 915.85 | 64.00 | 100.00 |
| SD | 0.50 | 708.67 | 11.54 | 5.08 | 1.56 |

Note: Final Status is binary, that is, equal to one when the campaign is successfully funded, and zero otherwise. Amount Pledged (in thousands) is the actual amount pledged at the end of the campaign. N of Contributors (in hundreds) is the number of contributors for a campaign. N of Words in Blurb is the number of words in the blurb of each campaign. Goal Amount (in millions) is the funding required for a campaign at the start.

(i.e., when the campaign was officially initiated and released to the public).

<Table 1> presents the summary statistics for our dependent and major control variables. As can be seen, approximately half of our sample campaigns succeed in obtaining their desired funds in a limited time. There are large variations in the amount pledged (the coefficient of variation is almost 31) and relatively small variations in the number of contributors (the coefficient of variation is only 7.6). In the short description section of their projects, creators use 20 words, on average, to attract contributors to get to know more about their projects. This highlights the importance of choosing the right words.

4.3. Analysis Method

Our first analysis method draws on important recent advances in the statistical learning literature. We use LASSO to perform parameter shrinkage and selection, thereby generating more stable and interpretable estimates in our model with a larger number of predictive words (e.g., see Tibshirani, 1996). Similar

to several studies that apply LASSO in textual analysis of worthwhile stock, credit default, and real estate (e.g., Basu et al., 2021; Cerchiello and Scaramozzino, 2020; Nowak and Smith, 2017), given high levels of multicollinearity among correlated words, we too prefer to automate the predictor selection and elimination process. Specifically, the LASSO regression specification is obtained by adding a distinct factor in the ordinary least squares SSE value, as shown below.

$$SSE = \sum_{i=1}^n (y_i - \hat{y}_i)^2 + \lambda \sum_{j=0}^k |b_j|$$

To address the multicollinearity issue, in contrast to Ridge regression, where all coefficients of predictive words never get to zero, LASSO allows continuous shrinkage to zero, indicating that words with a coefficient of zero make virtually no contribution to predicting project outcomes. The larger the λ , the more coefficients will be set to zero.⁶⁾

Our second analysis approach is PCA, which reduces the dimensionality of a piece of data by transforming its columns into a new set of features or equivalently principal components. PCA can help us further understand why some verbs are endowed with greater predictive power. We analyze the principal components for the specific set of verbs extracted by LASSO from a random choice of a textual data sample. The intention is to establish several main factors that absorb predictability from every LASSO-screened verb. These main PCA factors can then be labeled with economic meanings to better decipher the underlying effect of the verbs on our outcome variables.⁷⁾

6) Note that we employ 10-fold cross-validation to determine the best λ . This is in line with the common practice in the relevant literature. Nevertheless, our results are robust to other 5-, 15- and 100-fold cross-validations.

In the third step, we adopt logit regression to examine whether the variable construction based on the appearance of LASSO-selected verbs and on PCA-produced factors is statistically significant in forecasting crowdfunding campaign outcomes.

V. Results

In this section, we first analyze and present findings for three samples: the full sample and two subsamples (i.e., a commercial category subsample incorporating design and technology campaigns and a cultural category subsample comprising film & video and music campaigns). Then, we validate our full-sample baseline results by testing our method with other non-verb words and controlling for additional controls.

We always begin with a list of 100 frequently used verbs for each sample. Note that 1,000 words are chosen when we replace verbs with adjectives or nouns in robustness checks. However, because LASSO reveals sample-specific numbers of strong predictors, we obtain sets of predictive verbs with different sizes for different samples. For instance, regarding our full sample, the following 20 verbs emerge as possessing predictability for crowdfunding's final status: "allow, create, debut, feature, finish, give, help, hope, know, look, release, save, show, start, use, want, will, connect, provide, and explore." The set size is 32 and 18 for the commercial and cultural subsample, respectively (<Table 2>).

Before PCA, for each sample, we simply regress the final campaign status on all LASSO-selected verbs specific to that sample using Logit. The full-sample results are listed in the first column of <Table 2>. Results for the two categorical subsamples are pre-

sented in the next two columns. Whereas some verbs have positive predictability, most of them are adversely associated with crowdfunding campaign success.⁸⁾ Note that different samples not only generate different sets of predictors but also give rise to varying magnitudes of coefficients for common verbs that appear in all three samples: "create," "want," "will," "explore," and "help." In <Table 2>, the verb "help" shows different signs for different samples—positive in the full sample and cultural subsample, negative in the commercial subsample.⁹⁾

We assume the same categories of verbs have the same signaling effects. However, we do not assume that the same effects apply to all categories, and we show that different verbs have different impacts on campaign successes in different categories. Also, we admit that the effects of one word are very limited, especially in campaigns that include a large number of words. In the research, we focus on the impacts of the verbs selected on the campaign successes. We are exploring whether these verbs have negative or positive impacts conditional on other factors (including types of linguistic cues and so on) that are randomly assigned in the sample. And we do control the number of words in a campaign in our research.

8) Exercises similar to those behind <Table 2> are repeated with respect to forecasting the amount pledged and the number of contributors. We find that all results remain significant, but the signs of some coefficients change with the dependent variable. These results are available upon request.

9) In our sample, the verbs "will" and "release" totally show up 3,345 and 1,836 times out of 50,000 campaigns, respectively, and the verbs "help", "want", and "create" are 4,316, 1,832, 2,338 times. Also in the campaigns which include these verbs, the verbs usually show up only one time. This implies that there are about 3,345 campaigns including the verb "will" and the same applies to other verbs. We note that there may exist interaction effects between these verbs which are of interest and it is possible that these verbs can influence each other. We will leave this interesting study for future research.

7) Instead of PCA, we also experimented with exploratory factor analysis with maximum likelihood. The results are similar.

<Table 2> Verbs Selected for Final Status (LASSO)

| | All | Commercial | Cultural |
|--------------|----------|------------|----------|
| search | | -1.15*** | |
| allow | -0.98*** | -0.53*** | |
| print | | 0.36*** | 0.87*** |
| build | | 0.23*** | |
| promote | | -0.84*** | |
| can | | -0.34*** | |
| top | | 0.76*** | |
| control | | 0.42*** | |
| provide | -0.76*** | -0.61*** | |
| become | | | -0.40*** |
| kit | | 0.55*** | |
| call | | | -0.46*** |
| explore | 0.92*** | 0.76*** | 0.82*** |
| create | -0.51*** | -0.30*** | -0.56*** |
| shoot | | 0.92*** | |
| debut | 0.64*** | | 0.44*** |
| buy | | -0.77*** | |
| feature | 0.27*** | | |
| sound | | 0.52*** | |
| dream | | | -0.28*** |
| pay | | -0.74** | |
| finish | 0.75*** | | 0.60*** |
| give | -0.34*** | | |
| design | | 0.38*** | |
| find | | -0.75*** | |
| get | | -0.30*** | |
| help | 0.14*** | -0.28*** | 0.22*** |
| hope | -0.99*** | | -1.14*** |
| know | -0.48*** | -0.98*** | |
| Constant | 0.13*** | -0.35*** | 0.37*** |
| Observations | 50,000 | 16,900 | 33,100 |

Note: *p<0.1; **p<0.05; ***p<0.01.

These facts provide preliminary evidence for the Propositions put forward under the theoretical framework. In what follows, we proceed to find principal components among the LASSO-selected verbs, seeking more solid evidence to support the arguments.

5.1. Baseline Results (Full Sample)

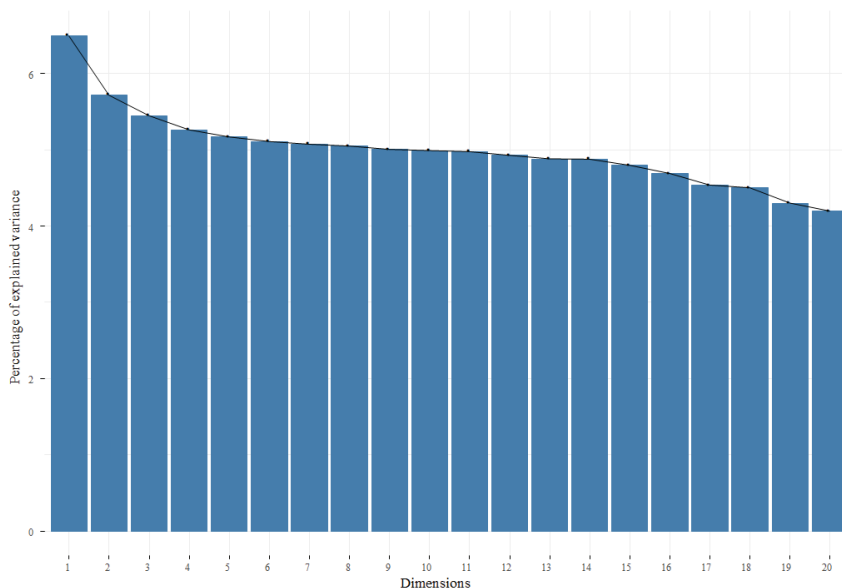
To start, we work on evaluating campaign success prediction in the full sample. <Figure 1> illustrates the percentage of total variation explained by a maximum of twenty principal components. In the figure, the components are ordered from large to small

<Table 3> Contributions to the PCs (All Projects)

| | PC1 | PC2 | PC3 | PC4 | PC5 |
|----------------|-------------|-------------|-------------|-------------|-------------|
| allow | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 |
| create | 0.2 | 0.6 | 93.4 | 0.1 | 5.3 |
| debut | 0.3 | 0.0 | 0.1 | 5.5 | 1.8 |
| feature | 0.1 | 0.1 | 0.2 | 0.4 | 13.3 |
| finish | 0.4 | 0.0 | 0.0 | 0.1 | 0.0 |
| give | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| help | 94.5 | 2.7 | 0.0 | 2.0 | 0.0 |
| hope | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| know | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| look | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| release | 1.7 | 0.0 | 0.8 | 65.6 | 7.7 |
| save | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| show | 0.0 | 0.0 | 0.1 | 0.0 | 0.2 |
| start | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| use | 0.0 | 0.1 | 0.5 | 11.5 | 0.8 |
| want | 0.1 | 0.0 | 4.0 | 14.4 | 70.5 |
| will | 2.6 | 96.3 | 0.7 | 0.1 | 0.1 |
| connect | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| provide | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| explore | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

percentages. We observe no sharp decline in explanatory percentage when moving from one component to the next, indicating that all twenty verbs selected by LASSO are unique and important in predicting campaign success. We note that <Figure 1> shows that each component contributes almost equally to the variance at first glance. This seems to be unusual in traditional PCA settings. However, this is expected to some extent in this study because verbs selected by LASSO should all carry unique information. In other words, it is unlikely that some of them contain information that dominates the rest.

We now focus on the top five principal components that matter the most. The results for the case of investigating the top ten principal components as robustness checks are available upon request. Other less prominent components (11-20) are left for future research, though only slightly less prominent.



<Figure 1> Percentages of Variance Explained for Final Status (All Projects)

Note: This figure plots the cumulative percentage of variance in verbs selected for final status explained by the first 20 principal components based on the full sample. The first 5 principal components explain 28.1% of total variance.

<Table 3> summarizes the individual contributions of the twenty most powerful predictive verbs to the five components. The results again confirm our argument of relative equal contribution. Each of the top five principal components relies mostly on contributions made by only a few words rather than a majority of the twenty words. Then, we focus on the economic interpretation of these five PCA factors, which can explain up to 28.1% of the total variance of campaign success for the full sample. In the first column of <Table 3>, it is evident that 94.5% of the changes in PC1 are driven by a single verb, “help.” Thus, we call the first principal component the HELP factor. Similarly, we call the second principal component the WILL factor (96.3%), the third the CREATE factor (93.4%), the fourth the RELEASE factor (65.6%), and the fifth the WANT factor (70.5%). We link each numbered PC with the verb contributing most to that PC’s movements.

<Table 4> presents the real prediction efficiency by regressing the final campaign status on these re-named factors specific to the full sample in a Logit specification. As can be seen from the first column

without any controls, the HELP, CREATE and WANT factors are negatively associated with the success of a crowdfunding campaign from the full sample. Intuitively speaking, the verbs “help” and “want” signal a sense of incapability, and “create” comes with a great amount of uncertainty. Therefore, such reflection induces a lack of confidence among contributors, resulting in a high likelihood of unsuccessful campaigns. By contrast, the WILL and RELEASE factors turn out to be positive predictors, probably because they convey the signal of promise. All five factors possess statistically significant predictability. These findings stay robust after including additional controls, for example, the total number of words used in the campaign pitch, the crowdfunding goal, and the important dates over the campaign course.

5.2. Heterogeneity Analysis (Commercial vs. Cultural Subgroup)

To provide further implications, we perform a heterogeneity analysis using similar procedures for two

<Table 4> PCA Results of VERBs for Final Status (All Projects)

| | Dependent variable: Final status is success or not | | | | | | |
|--------------|--|----------|----------|----------|----------|----------|----------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| PC1:HELP | -0.20*** | -0.17*** | -0.10*** | -0.04 | -0.04 | -0.04 | -0.08** |
| PC2:WILL | 0.53*** | 0.55*** | 0.54*** | 0.54*** | 0.54*** | 0.54*** | 0.49*** |
| PC3:CREATE | -0.71*** | -0.72*** | -0.71*** | -0.58*** | -0.58*** | -0.56*** | -0.53*** |
| PC4:RELEASE | 0.72*** | 0.71*** | 0.56*** | 0.37*** | 0.37*** | 0.37*** | 0.37*** |
| PC5:WANT | -0.76*** | -0.78*** | -0.76*** | -0.68*** | -0.68*** | -0.69*** | -0.51*** |
| Intercept | 0.07*** | -0.08*** | 0.14*** | 1.00*** | 1.01*** | 0.94 | 0.96 |
| N of words | | 0.01*** | 0.01*** | 0.01*** | 0.01*** | 0.01*** | 0.01*** |
| Goal | | | -8.79*** | -6.86*** | -6.84*** | -6.22*** | -3.14*** |
| Launchedyear | No | No | No | Yes | Yes | Yes | Yes |
| Location | No | No | No | No | Yes | Yes | Yes |
| Sentiment | No | No | No | No | No | Yes | Yes |
| Industry | No | No | No | No | No | No | Yes |
| Observations | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |

Note: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, all control variables are significant.

subsamples from the full sample: the commercial and cultural projects. The reason why we develop such a categorization is as follows. Bürger and Kleinert (2021) discuss the different motives of contributors in investing in commercial and cultural crowdfunding projects. They have classified projects that seek to create economic value or shareholder wealth by launching new products or services for customers as commercial projects (Parhankangas and Renko 2017). In contrast, projects that are used to identify or take advantage of opportunities in cultural domains, seeking to build cultural values for the public, are classified as cultural projects (Dacin et al., 2010). The sample projects they analyzed came from a German crowdfunding platform, Startnext, whose categorization rule resembles Kickstarter. We hence link Kickstarter categories to the above two types. Note that there is also a unique clustered category called “Design & Tech” on Kickstarter. By inspecting the definition of this category and the description of the project with such a label, we discover that “Design” here means devices and tools designed for implementing a function and almost nothing about works of art and design shape. As a result, in this paper, we classify Kickstarter “Design” and “Technology” campaigns as commercial projects, while “Music” and “Film&Video” ones as cultural projects.

Similar procedures are implemented using the subsamples. This subsection includes the results of the commercial crowdfunding campaigns. First, the LASSO method selects the 32 most powerful predictive verbs in this subsample. This is a larger pool of verbs than the full sample, demonstrating that creators with a commercial purpose usually employ a more diverse lexicon. Second, in each column of <Table 5>, we list how these verbs drive variations in the first five components specific to commercial campaigns. The five PC factors are DESIGN, MAKE,

WILL, CAN, and CREATE. Third, <Table 6> presents the results of regressing the final status on these five factors with a list of controls added. Again, except for the DESIGN factor in the last two specifications, almost all factors identified in the commercial subsample can predict campaign success significantly.

Whereas the DESIGN, WILL, and CREATE factors have positive and significant estimated co-

<Table 5> Contributions to the PCs (Commercial Projects)

| | PC1 | PC2 | PC3 | PC4 | PC5 |
|---------------|-------------|-------------|-------------|-------------|-------------|
| allow | 0.3 | 0.1 | 0.3 | 0.5 | 0.1 |
| build | 0.2 | 0.0 | 1.0 | 3.9 | 25.3 |
| can | 0.2 | 6.5 | 7.3 | 76.8 | 0.4 |
| control | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 |
| create | 0.0 | 0.0 | 12.6 | 0.1 | 63.5 |
| design | 87.8 | 8.9 | 1.6 | 0.5 | 0.0 |
| find | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| get | 0.0 | 0.1 | 0.5 | 0.0 | 0.3 |
| help | 0.0 | 1.4 | 22.2 | 0.2 | 7.2 |
| know | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| live | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| make | 10.7 | 81.5 | 3.5 | 3.4 | 0.3 |
| perfect | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| see | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| set | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| share | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| try | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| want | 0.0 | 0.3 | 0.7 | 0.0 | 0.0 |
| watch | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| will | 0.4 | 1.0 | 49.7 | 14.4 | 2.6 |
| connect | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| search | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| print | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 |
| promote | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| top | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| provide | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| kit | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| explore | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| shoot | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| buy | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| sound | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| pay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

<Table 6> PCA Results of VERBs for Final Status (Commercial Projects)

| | Dependent variable: Final status is success or not | | | | | |
|--------------|--|----------|----------|----------|----------|----------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| PC1:HELP | 0.25*** | 0.59*** | 0.52*** | 0.39*** | 0.39*** | 0.39*** |
| PC2:WILL | 0.11* | 0.10* | 0.14** | 0.10 | 0.10 | 0.10 |
| PC3:CREATE | 0.90*** | 0.88*** | 0.90*** | 0.84*** | 0.84*** | 0.83*** |
| PC4:RELEASE | 0.02 | 0.01 | -0.004 | 0.03 | 0.03 | 0.03 |
| PC5:WANT | 0.18*** | 0.19*** | 0.21*** | 0.26*** | 0.26*** | 0.26*** |
| Intercept | -0.44*** | -0.36*** | -0.15** | 0.11 | 0.13 | 0.16 |
| N of words | | -0.004 | -0.004 | 0.003 | 0.003 | 0.004 |
| Goal | | | -6.12*** | -5.29*** | -5.30*** | -5.30*** |
| Launchedyear | No | No | No | Yes | Yes | Yes |
| Location | No | No | No | No | Yes | Yes |
| Sentiment | No | No | No | No | No | Yes |
| Observations | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |

Note: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, all control variables are significant.

efficients, the MAKE and CAN factors are positively but not significantly associated with commercial campaign success. The CREATE factor transforms from a negative predictor in the full sample to a positive in the commercial subsample. This might be because novel applications in commercial campaigns determine their profit potential—uncertainty in the business world equates to changes that seize a larger proportion of the market. This observation results from two regularities: (1) the contributions of each verb to the main PCs are different for different samples; (2) the main verbs that contribute most to the top five PCs also vary according to the sample. For example, the verb “create” is responsible for 93.4% of the changes in the full sample’s CREATE factor and only 63.5% of the changes in the commercial subsample’s CREATE factor. Similar patterns also emerge when we describe results for the cultural category subsample.

As for cultural campaigns, we illustrate that there

exist 18 verbs that can predict the success of cultural campaigns, close to the number of verbs that stand out in the full sample. Regarding the PCA results for the cultural category, <Table 7> demonstrates the composition of the top five components based on contributions made by the verbs selected by LASSO in this cultural subsample. These are the HELP, WILL, RELEASE, CREATE, and WANT factors. <Table 8> shows that, except for the CREATE factor, the other four principal components do indeed predict the final status of cultural campaigns positively and significantly. The facts from all previous subsections and these results prove Proposition 1 under the theoretical framework.

To sum up, across the different samples, not only do the verbs selected by LASSO differ, but these verbs’ shares in the total contribution to every principal component are also distinct from one sample to another.¹⁰⁾ Nevertheless, we observe some overlaps

10) This paper selects the most commonly used verbs which are representative of all campaigns in our sample. Thus,

<Table 7> Contributions to the PCs (Cultural Projects)

| | PC1 | PC2 | PC3 | PC4 | PC5 |
|----------------|-------------|-------------|-------------|-------------|-------------|
| become | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| call | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| create | 0.1 | 0.1 | 0.7 | 67.8 | 30.7 |
| debut | 0.7 | 0.1 | 6.5 | 0.1 | 4.0 |
| dream | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| finish | 0.7 | 0.0 | 0.0 | 0.1 | 0.0 |
| help | 93.9 | 1.0 | 4.0 | 0.1 | 0.0 |
| hope | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| look | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| order | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| release | 3.8 | 0.9 | 87.1 | 0.3 | 0.0 |
| show | 0.0 | 0.0 | 0.1 | 0.8 | 0.7 |
| start | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| try | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| want | 0.1 | 0.0 | 0.2 | 30.7 | 64.0 |
| will | 0.6 | 97.8 | 1.4 | 0.1 | 0.1 |
| print | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| explore | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

in the top five components across different samples. For instance, the WILL and CREATE factors are among the top five predictive principal components in all three samples.

Interestingly, the full sample and the cultural categorical subsample have identical components, and even their respective rankings are similar.¹¹⁾ However, the HELP and WANT factors are negatively associated with good funding results in the full sample, whereas

our results generalize to all campaigns but are not specific to some campaigns. We also separate our sample into commercial and cultural campaigns and show that for different categories the significant verbs are different (as shown in <Table 2>). This highlights that campaign creators in different fields should focus on different verbs.

11) In the full sample, the CREATE factor is ranked fourth and the RELEASE factor is ranked fifth; whereas, in the cultural subsample, these two factors exchange positions, whereas all other factors in the top five remain unchanged.

the same two factors foreshadow success for cultural campaigns. This indicates that emotions might be valued more positively by cultural creators, such as artists and musicians.

Three of the five PC factors produced by the commercial subsample are unique compared to the full and cultural sample—the DESIGN, MAKE, and CAN factors—though the MAKE and CAN factors are insignificant final status predictors in the logit regressions. Therefore, the commercial subsample PCs are not necessarily the most suitable to capture the economic meaning of the PCs driving the cultural subsample. In other words, these two types of creators use different vocabulary in promoting their campaigns on the platform. When integrating the commercial and cultural subsample into a single full sample, the effects of the cultural subsample’s linguistic aspect, proxied by the pitch verbs in common usage, dominate the effects in the commercial subsample. Thus, these results also support Propositions 2 and 3 proposed under the theoretical framework.

5.3. The Role of Adjectives and Nouns

One may still be concerned about why verbs are chosen over other words constituting the speech. This subsection directly addresses this concern by restating verbs’ predictive power and then replicating the exercises with non-verb words. Verbs are chosen over other words as the focus of this study for theoretical reasons (i.e., verbs convey extra messages used for cognition) and empirical considerations (i.e., the effect of non-verbs turns out to be less significant in our sample).

Theoretically speaking, verbs contain information beyond the basic semantics of nouns and adjectives, affecting people’s cognitive process (Fiedler, 2008) or the so-called meta-semantic effects. Specifically,

<Table 8> PCA Results of VERBs for Final Status (Cultural Projects)

| | Dependent variable: Final status is success or not | | | | | |
|--------------|--|----------|----------|----------|----------|----------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| PC1:HELP | 0.34*** | 0.33*** | 0.26*** | 0.22*** | 0.23*** | 0.23*** |
| PC2:WILL | 0.38*** | 0.39*** | 0.39*** | 0.39*** | 0.41*** | 0.42*** |
| PC3:CREATE | 0.67*** | 0.67*** | 0.60*** | 0.51*** | 0.51*** | 0.50*** |
| PC4:RELEASE | -0.77*** | -0.78*** | -0.79*** | -0.68*** | -0.68*** | -0.68*** |
| PC5:WANT | 0.17*** | 0.17*** | 0.17*** | 0.22*** | 0.22*** | 0.22*** |
| Intercept | 0.33*** | 0.27*** | 0.14*** | 1.00*** | 1.01*** | 0.94 |
| N of words | | 0.003 | 0.002 | 0.01 | 0.01 | 0.01 |
| Goal | | | -8.32*** | -6.89*** | -6.89*** | -6.27*** |
| Launchedyear | No | No | No | Yes | Yes | Yes |
| Location | No | No | No | No | Yes | Yes |
| Sentiment | No | No | No | No | No | Yes |
| Observations | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |

Note: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, all control variables are significant.

this additional information can be reflected in three aspects. First, verbs have dynamic properties that other words do not have, hence coning a primary means of expressing activities (Formanowicz et al., 2017). Second, although different groups of campaign creators have different preferences for verbs and adjectives in organizing language for the project description, adjectives are considered to provide more information about the actors. Third, adjectives are less predictive of future behavior, but they help readers imagine specific scenarios (Maass et al., 2006). In sum, verbs are connected to information on dynamics, actions, and forecasts.

Nevertheless, we replicate our exercises with verbs in two new samples of adjectives (incorporating adverbs) and nouns (incorporating pronouns). We listed high-frequency adjectives that appeared in crowdfunding blurbs. A LASSO method selects 97 adjectives from the 1000 pool, and the first five principal components produced by PCA can be similarly assigned to a label of “new”, “short”, “novel”, “comic,” and “full”.

As for the final step of predictive regression, although the above principal components can also explain the fluctuations in the outcome variables of crowdfunding campaigns up to a goodness of fit value of 10.23% (similar to what we observe for verbs), the significance of their estimated coefficients turn out to be consistently lower than that of verbs. Please see the results presented in <Table 9> and <Table 10>.

As for the second replication, some studies have pointed out that nouns, especially pronouns, can reflect employees’ levels of engagement and affective commitment at work (Lion and Bolinger, 2016). When used with verbs, nouns can serve as indicators of emotional state, social identity, and cognitive styles (Pennebaker et al., 2003). However, when we apply the top 1000 high-frequency nouns in blurbs to LASSO regressions in our sample, all these nouns are abandoned under any soft threshold. Therefore, we believe that the role of nouns in publicity slogans is weak because the target enterprise will choose different nouns as subjects according to its industry, company

<Table 9> Contributions to the PCs of ADJECTIVES (Final Status, All)

| | Adj. PC1 | Adj. PC2 | Adj. PC3 | Adj. PC4 | Adj. PC5 |
|---------------|-------------|-------------|-------------|-------------|-------------|
| new | 99.9 | 1.3 | 0.8 | 0.2 | 0.4 |
| big | 0.0 | 0.2 | 1.0 | 0.2 | 0.6 |
| great | 0.0 | -0.2 | 0.8 | 0.3 | -0.1 |
| right | 0.1 | 0.0 | 0.3 | 0.3 | 0.0 |
| american | 0.3 | -0.3 | 0.6 | -1.4 | -3.5 |
| little | -0.1 | 0.1 | 1.1 | 0.7 | 0.8 |
| low | 0.0 | 0.2 | 0.2 | 0.1 | 0.3 |
| full | 0.9 | -1.1 | -0.5 | -4.4 | 93.0 |
| top | 0.0 | 0.0 | 0.1 | 0.3 | 0.1 |
| dead | -0.2 | 0.4 | 1.0 | 1.0 | -1.0 |
| local | 0.0 | -0.1 | -0.1 | -0.1 | -0.4 |
| short | -1.3 | 99.9 | 2.2 | 0.9 | 0.7 |
| private | 0.0 | 0.0 | 0.3 | 0.2 | 0.1 |
| israeli | 0.0 | 0.1 | 0.2 | 0.2 | 0.1 |
| single | 0.4 | 0.0 | 0.0 | 0.3 | 0.0 |
| like | 0.0 | -0.1 | 0.3 | 0.2 | 0.0 |
| amazing | 0.2 | 0.1 | 0.1 | 0.3 | 0.1 |
| red | -0.2 | -0.1 | 1.1 | 1.1 | 0.8 |
| funny | 0.1 | 0.2 | 0.3 | 0.4 | 0.1 |
| ... | | | | | |
| original | 0.0 | 0.1 | 5.4 | 0.2 | -1.0 |
| lucky | 0.1 | 0.1 | 0.5 | 0.2 | 0.1 |
| due | 0.0 | 0.1 | 0.2 | 0.4 | 0.1 |
| double | 0.1 | 0.0 | 0.1 | 0.1 | 0.5 |
| dark | -0.3 | 0.8 | 0.8 | 0.4 | 0.3 |
| sensitive | 0.0 | 0.1 | 0.2 | 0.2 | 0.1 |
| present | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| historic | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 |
| fast | 0.0 | 0.0 | 0.1 | 0.1 | 0.3 |
| musical | 3.4 | -0.8 | -2.1 | -7.4 | -36.3 |
| comic | 0.1 | -1.1 | 2.9 | 99.5 | 1.4 |
| mechanical | 0.0 | 0.1 | 0.2 | 0.2 | 0.1 |
| organic | -0.2 | -0.1 | -0.1 | -0.1 | -0.1 |
| casual | 0.0 | 0.1 | 0.2 | 0.4 | 0.1 |
| eternal | 0.0 | 0.2 | 0.4 | 0.2 | 0.1 |
| delicious | 0.1 | 0.0 | 0.1 | 0.1 | -0.1 |
| novel | -0.7 | -2.2 | 99.7 | -3.1 | -0.3 |
| instructional | 0.0 | 0.1 | 0.2 | 0.2 | 0.1 |

name, product characteristics, and so on. While different crowdfunding campaigns and underlying firms may share similar products and services or target the same type of investors or consumers, LASSO indicates that this potential homogeneity is insignificant.

5.4. Additional controls

This subsection is devoted to investigating whether our results stay robust in the presence of additional determinants of crowdfunding success. First, we evaluate the potential effect of emotions in verbs by resorting to the widely-used NRC Word-Emotion Association Lexicon (Mohammad and Turney, 2010). It includes a list of entries (14,183) of English words and their associations with two bipolar sentiment statuses (positive vs. negative) and eight categories of emotions (e.g., anger, anticipation, disgust, fear, joy, sadness, surprise, and trust). We argue that emotion for the verb is not a big issue in our paper. When we use this lexicon to analyze the verbs in the crowdfunding campaign blurbs, most of them have no association with the sentimental or emotional status. For example, there is no sentiment for 16 out of the 20 verbs selected by LASSO that are considered to have real influences on the final status. No emotional categories are assigned for 4 out of 5 principal components that affect crowdfunding success. We control for the sentiment score of the entire blurb in regressions. The results are robust and tabulated into the last column of all tables of word predictability of crowdfunding's final status.

We now move on to investigating other potential control variables. Gosain and Agrawal (2021) have summarized an array of factors that may affect the success of crowdfunding campaigns, including "Trust", "Social Network", "Rewards", "Geographical location", "Early Funds", "Visual Pitch", "Narration", "Updates",

<Table 10> PCA Results of ADJECTIVES for Final Status (All Projects)

| | Dependent variable: Final status is success or not | | | | | | |
|--------------|--|--------------------|--------------------|-------------------|-------------------|--------------------|--------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| PC1: NEW | 0.66** (0.04) | 0.60** (0.04) | 0.55** (0.04) | 0.56** (0.04) | 0.56** (0.04) | 0.56** (0.04) | 0.25** (0.04) |
| PC2: SHORT | -0.18** (0.06) | -0.21** (0.06) | -0.40** (0.06) | -0.43** (0.06) | -0.42** (0.06) | -0.43** (0.06) | 0.05** (0.07) |
| PC3: NOVEL | -0.45** (0.09) | -0.49** (0.09) | -0.71** (0.09) | -0.57** (0.09) | -0.69** (0.09) | -0.69** (0.09) | -0.64** (0.09) |
| PC4: COMIC | 0.13** (0.09) | 0.09** (0.09) | -0.05** (0.09) | -0.05** (0.09) | -0.04** (0.09) | -0.05** (0.09) | -0.35** (0.09) |
| PC5: FULL | 0.48** (0.09) | 0.44** (0.09) | 0.33** (0.09) | 0.35** (0.09) | 0.34** (0.09) | 0.34** (0.09) | 0.24** (0.09) |
| Intercept | -0.34*** (0.01) | -0.54*** (0.02) | -0.20*** (0.02) | 6.37 (0.43) | 5.87 (0.45) | 5.87 (0.45) | 5.61 (0.47) |
| N of words | | 0.04*** (0.01) | 0.04*** (0.01) | 0.04*** (0.01) | 0.04*** (0.01) | 0.04*** (0.01) | 0.02*** (0.01) |
| Goal | | | 0.01*** (0.01) | 0.01*** (0.01) | 0.01*** (0.01) | -0.01*** (0.01) | -0.01*** (0.01) |
| Launchedyear | No | No | No | Yes | Yes | Yes | Yes |
| Location | No | No | No | No | Yes | Yes | Yes |
| Sentiment | No | No | No | No | No | Yes | Yes |
| Industry | No | No | No | No | No | No | Yes |
| Observations | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |

Note: *** p<0.01, ** p<0.05, * p<0.1. Standard errors are in parentheses and all control variables are significant.

“Funder’s Involvement”, “Quality”, “Creator’s Characteristics”, “Innovative Orientation”, “Herding”, “Duration”, “Goals” and “Project Category”. However, considering the availability and quantification of these variables, we have the following considerations.

Because of the critical role that linguistic elements play in social perception and interaction, the language accounted for significant and substantial proportions of the variance in impressions of the target persons beyond that explained by traditionally studied person perception variables such as physical attractiveness, nonverbal expressiveness, and facial maturity (Diane et al., 1997). Emotional language, especially negative terms, is very important to form impressions, opin-

ions, and attribution (Baumeister et al., 2001), while the impact of a single word may not be so obvious (Pennebaker et al., 2003). So, we have to pay attention to the role of sentiment in crowdfunding blurbs in influencing investment decisions. Hence, in running predictive regressions, we have also controlled for the sentiment of the blurbs to avoid missing important variables. We used the sentimental analysis method proposed by Pröllochs et al. (2018) to score the blurbs. Hence, our sentiment proxy will take one of three values—positive, negative, or normal sentiment.

Since the rule of Kickstarter is “all or nothing”, the role of contributors becomes critical when the

amount raised reaches the key thresholds of 25%, 50%, and 75% of the fundraising goal. Creative entrepreneurs should fully consider the impact of the set target amount on the overall fundraising success (Rijanto, 2021). We have hence incorporated the goal amount as a control variable. The location of the startup company will have an important impact on the fundraisers to seize opportunities and attract funds (Noonan et al., 2021). Therefore, we added two regional dummy variables: whether the location is the United States and whether the location is a metropolis.

According to the statistical report of Kickstarter, they claim that the lower the time of raising funds, the greater the possibility of success, and the probability is the highest when the length allowed for fundraising is set to 30 days (Strickler, 2011). However, in most cases, the completion time of fundraising is highly related to the target amount. After controlling for the goal amount, we no longer need to include the planned fundraising time. Finally, we control for year variables that capture the economic situation during the fundraising period.

Most previous studies have abstracted from the industry heterogeneity of crowdfunding (Cholakova and Clarysse, 2015; Lin et al., 2014). Some scholars have analyzed the cultural and commercial projects of the largest German crowdfunding platform, Startnext. They found that the contributors of the two different types of projects are very different in motivation. The contributors of commercial projects appear as early customers looking for high-quality products. In contrast, the contributors of cultural projects are keen to become a part of cultural projects and then get utility from contact with the cultural community (Bürger and Kleinert, 2021). Contributors of cultural projects largely need a sense of participation and relevance (Ryan and Deci, 2000). The

promoters of cultural and creative enterprises often prefer to establish things with cultural value rather than commercial projects dominated by profits (Dacin et al., 2010), making the two major classifications have obvious heterogeneity. Therefore, we believe that different types of projects have differences in contributors and even project objectives. We want to see differences in selecting crowdfunding blurbs for different types of projects, so we added more detailed classified regression results. We also proved it by our PCA analysis of different types of projects. Great differences exist in the contribution of words, both verbs and adjectives, in different types of projects (Shown in <Table 11>). Therefore, we added dummy variables to mark the project type.

People often fund businesses out of personal relationships with entrepreneurs or based on their intuition. Most funders are not informed investors (Frydrych et al., 2014). Moreover, crowdfunding relies on the “wisdom of the crowd”; contributors evaluate each project separately and decide to invest privately (Bruton et al., 2015). Although Hobbs et al. (2016) pointed out that companies with high reputations may make crowdfunding easier to operate than those without reputations, they also indicated that poorer companies need the help of crowdfunding platforms more. In the UK, 84% of creative companies employ less than ten people, providing more than 1.5 million jobs to the market;¹²⁾ so, many small creative companies are crowdfunding for so many projects, making it difficult for most of them to enjoy the bonus brought by reputation.

In our sample, the target amounts of most projects are less than \$10000, with a median of \$5000, which indicates that the companies involved are startups

12) See the Report to Creative Industries Council made by Skillset Skills Group in London, 2012.

<Table 11> Contributions to PCs and Explained Variance Ratio by Subdivision in Industry

| | ART | | COMICS | | CRAFTS | | DANCE | | PUBLISHING | |
|------|-----------|--------|------------|--------|------------|--------|------------|--------|------------|--------|
| PC1 | MAKE | 24.24% | BOOK | 31.39% | MAKE | 15.80% | DANCE | 33.94% | BOOK | 25.31% |
| PC2 | SHOW | 5.08% | PRINT | 8.27% | LET | 7.20% | BRING | 18.63% | ADVENTURE | 5.84% |
| PC3 | BOOK | 4.80% | ADVENTURE | 6.63% | DESIGN | 5.08% | WORK | 3.62% | LOVE | 4.58% |
| PC4 | PRINT | 4.45% | HELP | 2.95% | WORK | 4.55% | SHOW | 3.24% | MAKE | 3.99% |
| PC5 | MAKE | 3.67% | BRING | 2.22% | NEED | 4.31% | HELP | 2.96% | WRITE | 2.87% |
| PC6 | HELP | 2.97% | END | 2.18% | GET | 4.25% | GO | 2.38% | MAKE | 2.63% |
| PC7 | GO | 2.52% | GET | 2.07% | TURN | 4.10% | GET | 2.10% | GO | 2.40% |
| PC8 | CREATE | 2.24% | WAR | 1.98% | PRINT | 3.86% | LIVE | 1.84% | GET | 2.17% |
| PC9 | DESIGN | 2.15% | GET | 1.84% | CREATE | 3.15% | BRING | 1.71% | GO | 2.01% |
| PC10 | BUILD | 2.11% | COMPLETE | 1.82% | HELP | 3.10% | FILM | 1.52% | DREAM | 1.98% |
| | DESIGN | | FASHION | | FILM&VIDEO | | FOOD | | TECHNOLOGY | |
| PC1 | DESIGN | 14.93% | DESIGN | 10.38% | FILM | 32.18% | BRING | 6.46% | MAKE | 7.51% |
| PC2 | WILL | 8.16% | MAKE | 9.90% | FEATURE | 7.25% | MAKE | 6.34% | OPEN | 6.84% |
| PC3 | MAKE | 6.66% | LAUNCH | 8.59% | MAKE | 3.54% | HELP | 5.70% | BUILD | 4.81% |
| PC4 | PLAY | 4.17% | HELP | 3.94% | LOVE | 3.34% | GET | 5.27% | LEARN | 4.60% |
| PC5 | BUILD | 3.52% | STYLE | 3.60% | PILOT | 2.77% | BUILD | 4.94% | CREATE | 3.53% |
| PC6 | WATCH | 2.70% | STYLE | 3.56% | FUND | 2.44% | GO | 4.64% | CONTROL | 3.25% |
| PC7 | GO | 2.57% | LOVE | 3.48% | LIVE | 2.27% | NEED | 4.43% | DESIGN | 3.11% |
| PC8 | USE | 2.42% | LET | 2.74% | SHOW | 2.05% | OPEN | 3.87% | SAVE | 2.72% |
| PC9 | PERFECT | 1.83% | DEBUT | 2.54% | GET | 1.83% | LET | 3.34% | TURN | 2.57% |
| PC10 | LEAD | 1.80% | LET | 2.29% | DREAM | 1.70% | LOVE | 3.13% | SHARE | 2.56% |
| | GAME | | JOURNALISM | | MUSIC | | PHOTOGRAPH | | THEATER | |
| PC1 | PLAY | 20.03% | BOOK | 11.21% | DEBUT | 16.37% | BOOK | 20.40% | PLAY | 15.22% |
| PC2 | WAR | 7.73% | PRINT | 10.06% | HELP | 10.48% | SHOW | 5.63% | SHOW | 6.65% |
| PC3 | ADVENTURE | 7.31% | HELP | 6.98% | HELP | 8.79% | PRINT | 3.98% | GO | 6.13% |
| PC4 | SET | 4.51% | RUN | 5.32% | RELEASE | 6.09% | LOVE | 3.78% | BRING | 4.92% |
| PC5 | BUILD | 3.61% | WAR | 5.32% | LET | 3.68% | LOOK | 3.14% | LOVE | 4.73% |
| PC6 | LET | 2.51% | RUN | 5.19% | LOVE | 3.37% | GET | 2.83% | HELP | 3.85% |
| PC7 | LET | 2.46% | KNOW | 5.05% | LIVE | 3.25% | DREAM | 2.52% | LIVE | 3.59% |
| PC8 | MAKE | 2.37% | TAKE | 4.59% | FUND | 2.99% | FIND | 2.22% | LET | 2.57% |
| PC9 | BRING | 2.21% | LOVE | 4.07% | GET | 2.42% | ADVENTURE | 1.99% | COME | 2.48% |
| PC10 | BOOK | 2.08% | LAUNCH | 3.98% | NEED | 2.23% | HOPE | 1.98% | MAKE | 2.40% |

that have not yet had a scale and are conducting Angel round financing. Most of the contributors' understanding of the projects and teams comes from the introduction of the details page, which is difficult to quantify. Based on the existing research, the repeat customer effect is more likely to prevail among crowd-

funding projects than the effects of wider recognition and reputation brought in by product and service popularity. We believe it makes less sense to take their goodwill and reputation as control variables in the current model setup.

5.5. Experiments on Improving the Wording of Blurbs

If we assume that each blurb uses only one representative principal component word, then at the maximum, only 27% (13,667 out of 50,000) of crowdfunding projects use the key verbs we identified. While this may point to real-life project creators overlooking the role of verbs, it also implies that an easy modification of blurbs with synonym replacement or bad word deletion can help a lot. Therefore, this subsection attempts to run more tests to corroborate the linkages between verbs and crowdfunding success.

This paper aims to guide the choice of verbs for crowdfunding initiators writing blurbs and narrations to transmit information. There are thousands of English words that appear in Kickstarter project blurbs; hence, no single word has a significant impact on the outcomes of all crowdfunding activities at all times. From the standpoint of contributors, when reading a message, the important thing is not the spelling or the directly-stated meaning of the word but the implied or suggested meaning. Therefore, some high-frequency words can represent a class of words with the same implication. That said, the starting point of our paper is thus to find significant verbs within the pool of high-frequency words. There is no doubt that some impactful verbs not frequently used might be omitted. However, we argue that omitting these words should not be a big concern for two reasons. First, verbs with a low frequency of occurrence in blurbs cannot represent the entire sample. Second, high-frequency verbs that do not pass the automatic selection procedure by LASSO are also omitted.

Essentially, what matters is the sequence of different screening tools. We go through three screening criteria: the first is high-frequency or not, the second

is LASSO, and the third is finding principal components. The last criteria of PCA deleted the final overlapping information and left with representative verbs. After all these procedures, the variance interpretation rate of the first five principal components is far less than 80%. Still, this three-criterion procedure stands out by using the minimal number of verbs to represent more than a quarter of the whole sample.

We acknowledge that a small pool of words might underestimate their principal components, contributing to a limited extent to the model's goodness of fit. But our purpose is to prove that utilizing some factors, which certain verbs can well label, is likely to improve the impact of the blurb on the campaign success probability. The surprisingly significant performance of the identified principal components has already made the point. Practically speaking, this conclusion can help fundraisers formulate their blurbs so that their projects can successfully raise the goal amount. When the sponsor consults about a product in a certain subdivision field, we may use our results for different categories for what wording elements the contributors want their blurbs to include and what elements are bound to exclude. We can even make targeted suggestions on how to modify the current expression of the blurb.

Nevertheless, to provide further evidence on the effectiveness of our conclusion, we design the following experiment that may help sponsors choose words for their blurbs. This also serves as a robustness test for our study. This experimental scheme consists of six main steps:

- Step 1 Input a blurb;
- Step 2 Break down the blurb into a list of constituent words;
- Step 3 Computing the Project Success Rate (PSR)

- of each constituent word as a benchmark;
- Step 4 Predict the blurb’s PSR;
- Step 5 Make modifications such as synonym re-
placement and low-PSR word deletion;
- Step 6 Re-evaluate the PSR of the modified blurb
in comparison to the baseline case.

To implement, we randomly select a test set of 61,572 observations, with a success rate of 39%, which remains the same as the overall projects’ success rate on Kickstarter. Then we use the original data of the main explanatory variables of the first ten principal components, corresponding to verbs and adjectives, respectively, for regression. The results show that the scheme has a high probability of being effective. The blurbs (using verbs and adjectives that we have identified to positively correlate with successful final status)

generate a significantly higher success rate than the average level. On the contrary, blurbs using negatively-related or unrelated words have below-average performance. The corresponding results are summarized in <Tables 12> and <Table 13>, providing strong collateral evidence for our hypothesis of verbs matter for crowdfunding outcomes.

In addition, we find that when switching to an alternative test set, the main explanatory components of verbs changed, but our conclusion still holds. Combined with the findings above, the representativeness of the same word in different types of projects is undoubtedly different. This can be attributed to the observation that some words become insignificant predictors when industry dummies are added to predictive regressions. If we restrict the same category of projects to conduct the above test, our results will

<Table 12> Results of Selected VERBs for Final Status (All Projects)

| VARIABLES | Success Rate of projects using the concerning word | Dependent variable: Final status is success or not | | | | | | |
|--------------|--|--|----------|----------|----------|----------|----------|----------|
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| help | 52% | 0.40*** | 0.34*** | 0.16** | 0.23*** | 0.20*** | 0.20*** | -0.04 |
| build | 42% | 0.02 | -0.02 | 0.16 | 0.14 | 0.14 | 0.14 | 0.23* |
| can | 38% | -0.22 | -0.30** | -0.27* | -0.29** | -0.29** | -0.30** | -0.27* |
| create | 42% | -0.04 | -0.09 | -0.12 | -0.12 | -0.12 | -0.12 | -0.17 |
| design | 26% | -0.61*** | -0.64*** | -0.61*** | -0.62*** | -0.59*** | -0.59*** | -0.28** |
| live | 29% | 0.16* | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 | -0.03 |
| make | 14% | 0.36*** | 0.30*** | 0.24*** | 0.30*** | 0.30*** | 0.30*** | 0.27*** |
| print | 49% | 0.39*** | 0.35*** | 0.11 | 0.23** | 0.23** | 0.23** | 0.35*** |
| Intercept | | -0.35*** | -0.58*** | -0.21*** | 6.22*** | 5.73*** | 5.73*** | 5.57*** |
| N of words | | | 0.04*** | 0.04*** | 0.04*** | 0.04*** | 0.04*** | 0.02*** |
| Goal | | | | -0.01*** | -0.01*** | -0.01*** | -0.01*** | -0.01*** |
| Launchedyear | No | No | No | No | Yes | Yes | Yes | Yes |
| Location | No | No | No | No | No | Yes | Yes | Yes |
| Sentiment | No | No | No | No | No | No | Yes | Yes |
| Industry | No | No | No | No | No | No | No | Yes |
| Observations | 61,572 | 61,572 | 61,572 | 61,572 | 61,572 | 61,572 | 61,572 | 61,572 |

Note: By March 15, 2022, Kickstarter has 551,851 completed publicity cases, of which 216,941 projects have been successful, showing a success rate of 39.3%. Of the 61,572 projects, we randomly selected, 25,674 projects were successful, also showing a similar success rate of 41.7%. This indicates that this test set is homogeneous and representative.

<Table 13> Results of Selected ADJECTIVES for Final Status (All Projects)

| VARIABLES | Success Rate of projects using the concerning word | Dependent variable: Final status is success or not | | | | | | |
|--------------|--|--|----------|----------|----------|----------|----------|----------|
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| new | 57% | 0.63*** | 0.57*** | 0.52*** | 0.53*** | 0.53*** | 0.53*** | 0.25*** |
| short | 37% | -0.19*** | -0.22*** | -0.41*** | -0.44*** | -0.44*** | -0.44*** | -0.03 |
| comic | 46% | 0.18** | 0.14 | -0.02 | -0.01 | -0.01 | -0.02 | -0.01 |
| full | 59% | 0.71*** | 0.66*** | 0.54*** | 0.55*** | 0.54*** | 0.54*** | 0.17* |
| novel | 31% | -0.45*** | -0.48*** | -0.69*** | -0.55*** | -0.67*** | -0.67*** | -0.64*** |
| big | 45% | 0.16 | 0.12 | 0.21* | 0.16 | 0.15 | 0.15 | 0.15 |
| american | 35% | -0.27*** | -0.29*** | -0.22** | -0.24** | -0.24** | -0.24** | -0.16 |
| black | 36% | -0.24** | -0.26** | -0.31** | -0.31** | -0.31** | -0.31** | -0.33*** |
| musical | 57% | 0.52*** | 0.50*** | 0.49*** | 0.47*** | 0.47*** | 0.47*** | -0.10 |
| Intercept | | -0.37*** | -0.56*** | -0.21*** | 6.3*** | 5.83*** | 5.83*** | 5.62*** |
| N of words | | | 0.04*** | 0.04*** | 0.03*** | 0.04*** | 0.04*** | 0.018*** |
| Goal | | | | -0.01*** | -0.01*** | -0.01*** | -0.01*** | -0.01*** |
| Launchedyear | No | No | No | No | Yes | Yes | Yes | Yes |
| Location | No | No | No | No | No | Yes | Yes | Yes |
| Sentiment | No | No | No | No | No | No | Yes | Yes |
| Industry | No | No | No | No | No | No | No | Yes |
| Observations | 61,572 | 61,572 | 61,572 | 61,572 | 61,572 | 61,572 | 61,572 | 61,572 |

Note: By March 15, 2022, Kickstarter has 551,851 completed publicity cases, of which 216,941 projects have been successful, showing a success rate of 39.3%. Of the 61,572 projects, we randomly selected, 25,674 projects were successful, also showing a similar success rate of 41.7%. This indicates that this test set is homogeneous and representative.

be more accurate and valuable. However, limited by the computing power, we cannot utilize all projects on Kickstarter for a more detailed and comprehensive analysis. We leave the full-sample validation for future research.

VI. Discussion and Conclusion

As an emerging financing channel for creative and innovative projects, crowdfunding has dramatically improved the process of turning new ideas into reality by providing networking, market testing, and money. While a pioneering body of crowdfunding literature has examined how different aspects of campaign pitches are associated with campaign success, there is a

definite lack of a more in-depth understanding of the relationship between the linguistic characteristics of campaign pitches and crowdfunding success. Previous literature focuses more on the effects and outputs of discourse, such as the likelihood of campaign success or performance. More importantly, previous works have predominantly studied a single aspect of communication in isolation. This study tackles essential questions that the extant literature does not answer: which word sets constitute the crowdfunding discourse and significantly affect crowdfunding success. We attempt to identify whether a common lexicon comprises language used in crowdfunding pitches. We posit that these components of campaign pitches play an essential role in reducing the risk or uncertainty due to the information asymmetry

associated with crowdfunding campaigns. The results show that specific verbs in a specific word set are positively or negatively associated with crowdfunding success across all campaigns. Next, we examine how the associations mentioned above vary across categories. We found that the effects of verbs on crowdfunding campaign performance are greater for cultural projects (e.g., movies, video, music) than for commercial ones (e.g., design, technology).

Our study makes several theoretical and practical contributions. Foremost, it contributes to the crowdfunding literature by providing a complete picture of the communication process between the creator and the contributors in the crowdfunding context. While a pioneering set of crowdfunding literature has examined how different aspects of campaign pitches are associated with campaign success, there is an explicit lack of a deeper understanding of the relationship between the linguistic characteristics of campaign pitches and crowdfunding success. The approach and method developed and applied in this study may help researchers focus on theories that best explain the importance of crowdfunding pitches. More generally, the findings could contribute to the entrepreneurship literature. Studies suggest that the campaign discourse may help creators leverage resources by communicating a distinctive identity (Lounsbury and Glynn, 2001;

Martens et al., 2007). Machine learning approaches are used in this study and may help researchers develop theoretical explanations in similar research contexts.

This study also provides practical implications for both crowdfunding platforms and creators in the cultural and creative domains by guiding them to write winning crowdfunding campaigns. For example, our findings show that verbs such as “debut”, “finish”, “help”, and “explore” exhibit strong positive associations with crowdfunding success. By contrast, verbs such as “allow”, “hope”, “start”, “use”, “want”, and “will” are negatively correlated with crowdfunding success (see <Table 2>). Generally speaking, our findings provide that a sense of feasibility in progressing and completing a campaign is critical, e.g., finish versus hope. When articulating their campaign pitches, potential campaign creators may refer to the association between the different verb sets and crowdfunding success. Moreover, this study’s implications allow us to look beyond crowdfunding. Startups can be launched through different channels, including crowdfunding (e.g., Kickstarter, Indiegogo), angel networks (e.g., AngelList), and accelerating programs (e.g., Y-Combinator). The method proposed in this study may be useful for structuring and sorting the available information in this regard.

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◆ About the Authors ◆



Xiang Gao

Xiang Gao is an associate professor with the Research Center of Finance at Shanghai Business School. His research interests focus on International Finance, Financial Markets, Risk Management, and Corporate Governance. He has published in journals including the *Economic Journal*, *Journal of Portfolio Management*, *European Financial Management*, and *Journal of Economic Dynamics and Control*. He obtained his Ph.D. degree in Financial Economics from Iowa State University in 2011. He also assumed the role of China Chapter executive of the Chartered Alternative Investment Analyst Association starting in 2014.



Weige Huang

Weige Huang is an assistant professor of economics and finance at the Wenlan School of Business, Zhongnan University of Economics and Law. He received his Ph.D. (2019) degree from Temple University in the US. His research interests include Microeconometrics, Finance, and Machine Learning. He has published papers in leading academic journals, including the *Oxford Bulletin of Economics and Statistics* and *Economics Bulletin*. He serves as a referee for the *Journal of Applied Econometrics*.



Bin Li

Bin Li is an assistant professor of marketing at the Raj Soin College of Business at Wright State University. He graduated from the University of Connecticut in 2016 with a Ph.D. degree in marketing. His research interests are Structural Dynamic Games, Empirical IO, Spatial Economics, and Big Data Inference. His papers have been published in journals like *MIS Quarterly*, *Decision Support System*, *Nankai Business Review International*, and *Journal of Global Marketing*.



Sunghan Ryu

Sunghan Ryu is an associate professor at USC-SJTU Institute of Cultural and Creative Industry in Shanghai Jiao Tong University (SJTU). His research interests include IT innovations in cultural and creative domains and effective information systems applications in the entrepreneurial context. He is the author of the book “Beauty of Crowdfunding: Blooming Creativity and Innovation in the Digital Era.” His academic works appeared in journals including *Journal of Strategic Information Systems*, *International Journal of Electronic Commerce*, *Internet Research*, *Electronic Markets*, *Current Issues in Tourism*, and *Electronic Commerce Research & Applications* and were presented at prestigious conferences such as ICIS, HICSS, Annual ICA Conference, and AOM Annual Meeting.

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