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THE ROLE OF VOLUNTARILY DISCLOSED INFORMATION ON CROWDFUNDING SUCCESS: EVIDENCE FROM KICKSTARTER

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ABSTRACT

Information crowdfunding discloses deviates from mainstream business disclosures in several important ways. In this study, we examine one aspect of this information phenomenon, i.e., the textual, nonmonetary, nonfinancial content of voluntary crowdfunding disclosures. We build on literature on voluntary disclosure, crowdfunding, and content analysis by examining how voluntary disclosure impacts funding success on one of the most successful crowdfunding websites, Kickstarter. Using a large sample of over two years of projects (102,967 projects), we find that the volume and content of voluntary disclosure impact funding success, and that those main effects differ based on discloser credibility and market competition in ways consistent with prior voluntary disclosure literature. Our results have implications for crowdfunding and regulators by providing new insight into crowdfunding stakeholder decision-making.

JEL: M41, M48, M13, G29

KEYWORDS: Agency Theory, Crowdfunding, Content Analysis, Voluntary Disclosure

INTRODUCTION

Business information disclosure is a primary function of accounting and therefore a primary area of accounting research (Feng Li, 2010, and Karim, Pinsker and Robin, 2013). In general, accounting and business disclosure research has focused on the following: (1) disclosure of financial information; (2) regulated and mandatory disclosure, (3) disclosure from publicly traded companies; (4) disclosure to a population knowledgeable of business transactions, and (4) disclosure using business information systems (Feng Li, 2010, Saxon and Guo, 2020). Crowdfunding is unique in that it deviates from all these mainstream trends. Crowdfunding disclosures are textual and nonfinancial, and significantly different than the nonfinancial information disclosed by companies (Ernst & Young LLP, 1998, and Wheeler and Zhang, 2021). Its disclosure content is less regulated, more voluntary, and more varied. It discloses to a population not typically savvy in business matters. Crowdfunding uses IT platforms much differently than business information systems. From this global overview, we investigate the content of the information voluntarily disclosed in crowdfunding. Specifically, our research question is: How do non-monetary nonfinancial aspects of crowdfunding disclosures (e.g., credibility and optimism) affect project funding success? Crowdfunding is an increasingly relevant part of the capital acquisition landscape for startups with over 1.2 billion dollars raised on the largest site (Kickstarter.com, 2015), a significant number of ongoing ventures resulting from the most successful projects (Mollick, 2014), and an increasingly high media profile (e.g., CNBC's Tech Crowd website, 2015). In addition to these economic and media impacts, the U.S. Congress (2012) and the SEC have taken note, as the JOBS Act of 2012 was influenced by the

success of Kickstarter and other crowdfunding sites. Reward-based crowdfunding (i.e. Kickstarter) regulations for disclosure are minimal, such that there are no mandatory disclosures, while regulations for equity-based crowdfunding, recently promulgated by the SEC in Title IV of the JOBS Act/ Reg A+ (SEC 2015), involve mandatory disclosure requirements for startups, however those requirements are lower than typical SEC registrants. Even with the recent revisions of the JOBS Act by the SEC (2015) regarding equity-based crowdfunding, news media have noted continued concerns about "insufficient regulation to monitor" (WSJ, 27 Oct. 2015) and that "the level of scrutiny and diligence in the crowdfunding market will likely be far weaker" (WSJ, 30 Oct. 2015) than in venture capital environments. Thus, reward-based crowdfunding provides an opportunity to investigate a unique environment for capital acquisition (i.e., one in which all disclosures are voluntary) that may also provide insight into how the less regulated equity-based crowdfunding market will operate. The reward-based crowdfunding environment entails exceptionally high agency costs and information asymmetry because disclosures are voluntary and not independently verified, however despite those frictions approximately 40 percent of Kickstarter projects reach their funding goals. Accordingly, we investigate the effect of voluntary disclosure on capital acquisition (funding) in a reward-based crowdfunding setting.

In addition to all reward-based crowdfunding disclosures being voluntary, there is little in the way of clear, concrete penalties for project creators who fail to deliver. Despite the success of reward-based crowdfunding sites, the creation of new businesses they support, and the uniquely high agency cost setting, little research has been done on the matter. In this paper, we utilize the crowdfunding setting to investigate the role of voluntary disclosure, specifically the volume of disclosure and the content of the disclosure on funding outcomes. In addition, we consider whether the credibility of the discloser and competition level in the project market conditionally impacts the main effects of disclosure on funding outcomes.

Based on prior research and theory on voluntary disclosure and agency theory, we hypothesize that the volume of voluntary disclosure (Francis, Nanda and Olsson, 2008) and the content of voluntary disclosure (Davis, Piger and Sedor, 2012, Davis and Tama-Sweet, 2012, and Huang, Zang and Zheng, 2014), along with the credibility of the discloser (Lii and Lee, 2012, and Frankel, Johnson and Skinner, 1999), in the Kickstarter project website will impact project funding outcomes. We perform a detailed analysis of over 102,967 Kickstarter projects covering October 2012 to October 2014, examining the amount of voluntary disclosure, the content of the voluntary disclosure, and the credibility of the discloser (Williams, 1996). We find strong support for the hypotheses that volume of voluntary disclosure and content of voluntary disclosure impact three key project funding outcomes: whether the project is fully funded, the dollar amount raised, and the number of backers attracted. The volume of disclosure is significantly positively associated with our crowdfunding success variables in all tests; for the content of disclosure, all our variables of interest are significant in the expected direction in our main tests. Optimistic and specific content positively impacts funding, while uncertain content negatively impacts funding. Project creator credibility also impacts outcomes significantly in the expected direction. In sensitivity analyses, we find that several attributes of our model have differential effects based on the credibility of the project creators; specifically, we find that the volume of disclosure has a greater impact when the discloser lacks credibility. This finding is consistent with voluntary disclosure serving a substitute role in the absence of credibility (Graham, Harvey and Rajgopal, 2005, Einhorn and Ziv, 2008, and Armstrong, Guay and Weber, 2010). Additionally, we find evidence suggesting that some of the effects of the content of voluntary disclosure on crowdfunding success vary conditionally on discloser credibility. More specifically, optimistic content is only significant when the discloser is credible, while specific content has a greater positive effect when the project creator lacks credibility. Finally, we examine the conditional impact of competition in the product market on our main effects, finding that the volume of voluntary disclosure, optimistic content, and specific content have a larger positive effect when the product market is more competitive.

Our study answers Verrecchia's (2001) call for more empirical research for insight into and theory development of disclosure. We answer this call by investigating a highly unique real world disclosure

environment in which all disclosures for raising funding are voluntary, unverified, and minimally regulated, and in which there are minimal means of enforcing the funding agreement. Accordingly, our study makes several contributions to the disclosure literature. First, unlike studies of publicly traded companies in which unverifiable disclosure is minimal and there are numerous legal means of contract enforcement, our results are from a setting in which all disclosures available to the capital provider at the crowdfunding website are unverified and there are few, if any remedies if the capital seeker fails to honor the promise to reward the capital provider. In turn, this creates an environment with unusually high agency costs. Information asymmetry is extremely, if not absolutely, slanted in the deficit to the principal (capital provider). Further, adverse selection problems in crowdfunding are myriad because of a near total lack of enforcement of the agreement between capital provider and capital seeker. And again, these conditions are occurring in a real world setting as opposed to an artificial laboratory experiment.

Second, we contribute to research on the role of unverifiable and nondiagnostic information in decision making. Since the disclosures are unverified, stakeholders (i.e., prospective funders of projects) should rationally discount the disclosures as being without value for decision making and therefore totally disregarded as nondiagnostic. However, our results indicate that stakeholders take the unverifiable disclosures provided as informative and diagnostic. Third, our study contributes by examining an environment that is unique regarding the relationships stakeholders have with each other, compared to stakeholders in publicly traded companies' settings. There is no competition among the stakeholders in our study, and they share no joint liability since they have little legal recourse should project creators renege on their promises to the stakeholders. Fourth, we contribute to disclosure research by studying an environment in which we have a complete set of the disclosures made by the founders/project creators, whereas public companies have numerous means of disclosure (e.g., annual statements, management forecasts, and conference calls) of which only an incomplete subset can be investigated in any one study. With this complete disclosure set, we are also able to establish causality with greater clarity than in prior public company research. That is, we have all the information available to the stakeholders since there are no alternative sources of information. Fifth, our study contributes to disclosure research by using content analysis to examine numerous aspects of the disclosures and in more detail than prior studies. Sixth, we examine how variation in market competition impacts the main effects of voluntary disclosure.

Finally, we contribute to the debate over how credibility interacts with voluntary disclosure as a complementary or substitutive effect. This study's results have implications for crowdfunding and regulators. Our results allow for a more detailed and varied understanding of crowdfunding, which is rapidly becoming a more broadly available mechanism for selling equity since the promulgation of JOBS Act/Reg A+ in 2015 (SEC, 2015) and has already resulted in over a billion dollars raised on Kickstarter alone. Our findings suggest that regulators may not need to be overly strict in regulating crowdfunding because even with minimal oversight and reliance on entirely voluntary and unverified disclosures, crowdfunding is to a surprising degree an effective capital market despite the severe agency costs. Finally, we believe that our findings can provide crowdfunding project creators insight into how best to design crowdfunding project websites for success. The remainder of the paper is organized as follows. Section II outlines prior research related to disclosure and develops hypotheses. Section III describes the data source. Section IV discusses the research design. Section V details the results, while Section VIII concludes.

LITERATURE REVIEW AND RESEARCH HYPOTHESES

Crowdfunding Literature

Peer-to-peer crowdfunding is a fairly new approach to financing a wide variety of activities. These activities range from purely personal (e.g., paying off personal credit cards) to social (e.g., raising funds for victims of natural disasters) to business (e.g., financing start-up ventures). Crowdfunding is also a rapidly changing and evolving phenomenon, and difficult to define (Mollick, 2014). For this paper we use Mollick's

definition: "Crowdfunding refers to the efforts by entrepreneurial individuals and groups – cultural, social, and for-profit – to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries" (2014, p. 2). Prior research has investigated disclosure mostly in traditional business information environments, e.g., small, medium, and large companies using enterprise systems (Feng, 2010, Karim, Pinsker and Robin, 2013) However, crowdfunding information is significantly different from mainstream business information. Crowdfunding information (for the period we cover, 2012-2014) is usually textual and nonfinancial. Additionally, whereas companies, when disclosing nonfinancial information, tend to use monetary and quantitative information, crowdfunding nonfinancial information is primarily nonmonetary and qualitative. (Ernst & Young LLP, 1998, and Wheeler and Zhang, 2021). Further, for our research period (2012-2014), crowdfunding disclosure content is less regulated, more voluntary, and more varied. The target population for such disclosures are less knowledgeable of business matters than the typical financial statements reader. Crowdfunding IT platforms are much different than business information systems.

Crowdfunding is a way for project creators to raise funds from peers outside of the usual means, e.g., banks loans or the stock market, typically done via the Internet. The exchange between the creator and the funder may be categorized into four types (Mollick, 2014). In all cases, the funder provides cash. The difference among the four types is what the funder expects in return. First, the funder may provide cash without expecting anything in return, e.g., to a charity (donation-based). Second, the funder expects a cash return, usually with interest (loan-based). Third, the funder expects a non-cash reward, e.g., the item to be produced or service to be provided by the project (reward-based). Fourth, the funder expects ownership in the project (equity-based). Equity-based funding is currently rare—less than 5% of all crowdfunding according to Massolution's 2013 Crowdfunding Report (Massolution, 2013)—but is expected to significantly increase since the release Reg A+ in 2015 (SEC, 2015).

To date, there is little research on crowdfunding, especially in accounting. Michels (2012) examines the loan-crowdfunding website Prosper.com, finding that voluntary disclosure of biographical and financial information by prospective lendees increases bid activity on their loan and lowers the cost of debt. Using content analysis, we examine the more entrepreneurial, project-oriented Kickstarter (rewards-based crowdfunding). Beyond the nature of the activity underlying the crowdfunding, significant other differences exist between Prosper and Kickstarter, most critically that disclosures on Kickstarter project listings are completely unverified, while some disclosures are verified on Prosper (2023). Thus, Kickstarter presents a market setting that is completely reliant on unverified voluntary disclosure, which entails exceptionally high agency costs. Kickstarter does perform an upfront screening of initial listings in an effort to minimize outright scams, however that does not guarantee rewards will be delivered or that the project if funded will succeed. With regard to voluntary disclosure in project listings, information provided at Kickstarter FAQ's (2015) webpage makes explicit mention of the importance of creator credibility, and suggests creators provide as much information as possible about the project, their plan to complete the project, and their background. They also state that "If a creator…. Doesn't share key information, backers should take that into consideration" (Kickstarter FAQ, 2015). Despite these suggestions to provide a high volume of voluntary disclosure, there is considerable variation in the amount and content of disclosure actually provided. Additionally, we note considerable project market competition in the Kickstarter setting, as there are typically several thousand project listings live at any time. Taken as a whole, the above information suggests that Kickstarter is a highly competitive marketplace with very high agency costs and minimal oversight, making it a unique and interesting setting in which to examine voluntary disclosure.

Non-diagnostic and Diagnostic Content

According to the economics-based rational choice model and utility theory, decision makers should not incorporate non-diagnostic or irrelevant content into the decision-making process (Camerer and Fehr, 2006). However, robust streams of research in psychology (cognitive and social), accounting (auditing) and

IT (decision aids) have demonstrated that decision makers do not ignore non-diagnostic content and thereby allow it to influence their decisions. Findings by Gilbert (1991) and Gilbert, Tafarodi and Malone, (1993) suggest that when presented with irrelevant information, the decision maker's first reaction is to believe it to be credible. Kahneman, Slovic and Tversky (1982) and Nisbett, Zukier and Lemley (1981) find that decision makers do not completely ignore irrelevant information and include it in their information processing. These results are found to hold true in accounting/auditing (Glover, 1997, and Hackenbrack, 1992) and IT/decision aid (Murthy and Wheeler, 2018, and Wood, 2012) contexts.

While we acknowledge the salience of the previously discussed research showing that non-diagnostic or irrelevant content significantly affects decision making, and therefore that irrelevant content in a Kickstarter website may impact funding success, we also point to a rich research stream indicating that truly informative or diagnostic content also affects decision making (and by extension Kickstarter funding success). Examples of research streams demonstrating the importance of relevant, diagnostic content to human decision making include rational choice theory (Camerer and Fehr, 2006, and Jones, 1999), elaboration likelihood model (Petty and Cacioppo, 1986) and argument quality research (Chaiken and Maheswaran, 1994, and O'Keefe, 1998). Thus, the significant effect of non-diagnostic content does not exclude the significant effect of diagnostic content, and vice versa. Both types of content can be present in a Kickstarter project listing, and both may affect funding success, in the same or opposite direction.

Voluntary Disclosure and Source Credibility

Research on voluntary disclosure suggests that such disclosures can affect decision making. This is surprising since voluntary disclosures are generally unverifiable and therefore should not be considered diagnostic. However, analytical research in accounting suggests that managers disclose private information voluntarily because rational market participants would interpret nondisclosure as bad news and then discount the value of firm (Grossman and Hart, 1980, Milgrom, 1981, Verrecchia, 1990, and Verrechia, 2001). Archival research supports this argument with empirical results that indicate that voluntary disclosure lowers cost of capital, increases trading volume, and increases investor following. For example, Sivakumar and Waymire's (1994) study of the New York Stock Exchange from 1905–1910 find significant changes in price and trading volume associated with voluntary disclosures, suggesting that these disclosures were seen by decision makers as sources of credible information. Similarly, results from Botosan (1997), Sengupta (1998), and Francis, Nanda and Olsson, (2008) indicate that cost of capital decreases in relation to the amount of voluntary disclosure. Eng and Mak (2003) find that firms with greater agency concerns (less independent boards, less managerial ownership) provide greater voluntary disclosure. Related papers find that voluntary disclosures can affect decision making in relation to "hype" around equity offerings (Lang and Lundholm, 2000), franchisee fees (Price, 2000), and the pricing of initial public offerings (IPOs) (Leone, Rock and Willenborg, 2007). Overall, these analytical and empirical studies suggest that many different types of decision makers find different types of voluntary disclosures credible sources of information. Prior literature using analytical approaches also provides several relevant conjectures to this setting. Lang and Lundholm (2000) find that disclosure increases investor following. In contrast, several of the elements that serve to mitigate information asymmetry available in a conventional capital market setting, are not available in a crowdfunding environment (e.g., analysts, blockholders, board of directors). As a consequence, crowdfunding voluntary disclosures via the project listing are the primary mechanism that a project creator has to mitigate the adverse selection concern of prospective funders (Lang and Lundholm, 2000, Glosten and Milgrom, 1985, and Diamond and Verrecchia, 1991). Based on these various findings from prior literature, we make the following prediction:

H1: The volume of voluntary disclosure will positively impact funding success.

Recent literature on voluntary disclosure in accounting has examined the information content of disclosures using textual-analysis software (Davis, Piger and Sedor, 2012, Davis and Tama-Sweet, 2012, Li, 2008, Li,

2010, Huang, Zang and Zheng, 2014, Mayew, Sethuraman and Venkatachalam, 2015, Merkley, 2014, and Huang, Teoh and Zhang, 2014). This literature suggests that capital market participants react to the "style" or "tone" of communications (Davis, Matsumoto and Zhang, 2015, and Huang, Zang and Zheng, 2014), and that the optimistic content in these communications can contain information signals about future performance (Davis, Piger and Sedor, 2012, and Mayew, Sethuraman and Venkatachalam, 2015). Given that Kickstarter offers exclusively voluntary, unverified disclosure, one content-based signal of quality or viability of a project may relate to the degree of optimism conveyed in the voluntary disclosure. Capital markets literature has long debated whether "good news" disclosures are informative or biased, with Verrechia (2001) concluding that a biased forecast can still be informative. Consistent with that, prior capital markets literature has found that optimistic content in voluntary disclosures may be informative and predictive of future performance (Davis, Piger and Sedor, 2012, Demers and Vega, 2009, and Price, Doran, Peterson and Bliss, 2012), but also that optimism in voluntary disclosure may be biased or misleading (Huang, Teoh and Zhang, 2014, Cho, Roberts and Patten, 2010, and Aboody and Kasznik, 2000). Given the conflicting results found in prior literature, we make the following non-directional prediction:

H2a: Optimistic content in project listings will impact funding success.

Another aspect of voluntary disclosure that has been examined in prior literature is the precision or specificity of the disclosure. Baginski, Conrad and Hassell (1993) find that specific point estimate forecasts receive a larger market reaction, while Lansford, Lev and Tucker (2013) find that more detailed disaggregated earnings guidance is associated with an improved information environment. Prior literature also suggests that managers will disclose more when their information is more precise (Verrecchia, 1990, and Tasker, 1998), particularly when existing public information is less informative, and that such disclosure will improve capital market outcomes. Given minimal existing public information in our setting, the importance of specific content may take an even greater role. We consider content that is more detailed with regard to timing, measurements, and quantities, and more tangible and material to be more specific. Such specific content may convey information about the viability of the project and the creator's capability to complete the project; conversely, a dearth of such specific content may be a negative signal about the viability of the project. Thus, we predict the following:

H2b: Specific content in project listings will positively impact funding success.

In addition to optimism (H2a) and specificity (H2b), we examine a third component of the content of project listings: uncertainty. Uncertainty is reflected in a conventional discounted cash flows model via discount rates. Further, using Diction software for content analysis, Cho, Roberts and Patten (2010) find that worse performing companies tend to use less certain content in disclosures. We consider uncertain content in a project listing to be content conveying a lack of control over outcomes, inability to commit to the verbalization being made, inexactness, hedges, or inactivity. Based on the above findings, we expect such uncertain content to signal bad news about the project's potential. Presuming prospective backers pick up on this uncertain content, we predict the following:

H2c: Uncertain content in project listings will negatively impact funding success.

A key finding in the voluntary disclosure literature is that the credibility of the disclosing party impacts market response (Williams, 1996, Stocken, 2000, and Healy and Palepu, 2001). Related behavioral literature supports this (Camerer and Fehr, 2006, Jones, 1999, O'Keefe, 1998, and Petty and Cacioppo, 1986), suggesting that source credibility impacts decision-making by increasing the perceived diagnostic value of the information and by extension increasing the decision weight of the information. These finding facilitates differentiating the effects of biased or opportunistic disclosure (Aboody and Kasznik, 2000, and Brockman, Khurana and Martin, 2008) from the effects of informative disclosure (Core 2001, and Hutton, Miller and Skinner, 2003) on decision making. Specifically, research found that disclosing parties with a

higher credibility for accuracy (Williams, 1996, and Ng, Tuna and Verdi, 2013) or frequency of disclosure (Hutton and Stocken, 2009) receive a larger capital market response than those with lower credibility. Consistent with these findings, Graham, Harvey and Rajgopal (2005) find that top level executives show significant concern with developing and maintaining credibility in the capital market for quality disclosure. A related stream of literature documents an asymmetric response to disclosure, where bad news is accepted as credible while good news that is unexpected (McNichols, 1989) or unsupported by supplementary disclosure (Hutton, Miller and Skinner, 2003) is treated more skeptically. In light of the importance of discloser credibility, we therefore re-examine the effects of the volume of voluntary disclosure and the content of voluntary disclosure on funding outcomes while conditioning on the credibility of the disclosing party:

H3a: The effect of the volume of disclosure on funding success will vary conditionally on project creator credibility.

H3b: The effect of disclosure content (optimistic, specific, uncertainty) on funding success will vary conditionally on project creator credibility.

Prior literature has also examined the impact of market competition on corporate decisions (Harris and Raviv 1991, Xu 2012, and Valta 2012), accounting attributes (Dhaliwal, Huang, Khurana and Pereira, 2014), and disclosure (Li 2010, Clinch and Verrecchia 1997, and Darrough and Stoughton, 1990). These disclosure papers generally find that greater competition may increase disclosure, lead to more conservative accounting, and impact corporate decisions. Accordingly, we re-examine the effect of the volume of voluntary disclosure (H1) and the content of voluntary disclosure (H2a, H2b, H2c) on funding outcomes while conditioning on the competition level of the project category:

H4a: The effect of the volume of disclosure on funding success will vary conditionally on competition level in the project category.

H4b: The effect of disclosure content (optimistic, specific, uncertainty) on funding success will vary conditionally on competition level in the project category.

Given the lower threshold of credibility necessary for bad news disclosures, compared to that of good news disclosures, to merit a capital market reaction (Skinner 1994, and Mercer, 2005), we expect less support for H3b and H4b with respect to uncertainty than for optimism and specificity.

DATA AND METHODOLOGY

Data

Our dataset was obtained from Kickstarter, considered the largest and dominant crowdfunding site (Mollick, 2014). Kickstarter uses a reward-based model predominantly, but also allows for donation-based crowdfunding. It does not use loan-based Michels (2012); Gao and Lin, (2013) or equity-based crowdfunding. Kickstarter began in 2009. Funders must be US residents, with US addresses and credit cards. As of December 29, 2014, Kickstarter, which reports overview statistics at its website, lists 76,488 successful and 115,515 failed projects. Kickstarter uses an all-or-nothing funding approach. That is, no funding is received by the project creator until 100% funding has been pledged. Kickstarter reports that of projects that receive over 20% of their requested funding, 79% go on to achieve complete funding.The population of project listings used in our study starts from all Kickstarter listings starting on or after October 1st, 2012 and ending on or before October 31st, 2014. We limit that population to only projects whose outcome was known as of October 31st, 2014. Lastly, we truncate the population at the 1st and 99th percentile of words used in the project description to remove projects with extreme values (i.e., less than 27 words in

the description and more than 2,928 words in the description. This results in a sample of 102,967 unique project observations (38.9% of which were successful) from 89,725 unique project creators. In terms of project category, we note that film & video, music, and publishing projects are the most popular categories of projects listed (at 18%, 15%, and 12% of project observations, respectively), with no other project category providing more than 10% of the sample. Among the subsample of successful (fully funded) projects, film & video and music comprise approximately 20% each of all successful projects, with no other category comprising 10% of successful projects.

Voluntary Disclosure and Project Success Variables

Summary definitions of independent and dependent variables are given in Appendix A and descriptive statistics are presented on Table 1. All continuous variables are winsorized at the first and 99th percentile. Below we describe the variables in more detail. We also discuss predicted relationships between independent and dependent variables.

Table 1: Descriptive Statistics

Variable	Mean	Std Dev	Lower Quartile	Median	Upper Quartile
Backers	2.8648	1.8317	1.3863	2.8904	4.2195
Funded	0.3896	0.4877	0	0	1
Pledge	6.1052	3.1128	4.1897	6.7957	8.4606
Description	4.6167	0.6619	4.1897	4.6250	5.0626
Optimism	0.0283	0.0142	0.0188	0.0265	0.0357
Specificity	0.1075	0.0320	0.0861	0.1044	0.1258
Uncertainty	0.0266	0.0130	0.0178	0.0253	0.0340
Creator website	0.7965	0.4026	1	1	1
created	1.4658	1.1294	1	1	1
backed	3.4272	8.1183	0	1	3
proven	0.0706	0.2562	0	0	0
Facebook shares	3.4479	2.2051	1.3863	3.9512	5.2983
duration	3.4183	0.3363	3.4012	3.4012	3.4965
Goal	8.5832	1.6066	7.6014	8.5174	9.6159
Faq	0.2342	0.5376	0	0	0
comments	0.7892	1.2668	0	0	1.0986
picture	0.4578	0.4982	0	0	1
video	0.0650	0.2465	0	0	0
Updates	3.3669	5.2973	0	1	5
Rewards	9.5124	5.3100	6	9	12
TOTAL	102,967				

This table provides descriptive statistics for all completed Kickstarter projects between October 2012 and October 2014. See Appendix A for variable definitions.

Independent Variables: Disclosure Attributes

Description: The natural log of the number of words in the project description section (main section) of the Kickstarter.com website is counted using content analysis software. Based on research on the effect of voluntary disclosure on capital market outcomes (Francis, Nanda and Olsson, 2008, Verrecchia 2001, and Milgrom 1981), in H1 we predict a positive relationship between the number of words in this section and project success. We focus on the primary disclosure area, the project description (*Description*), as it is explicitly presented on the project listing pages, in contrast to other disclosures that may be made via the

FAQ, updates, or comments section (they require additional navigation to reach). While we control for those other sections (see *Control Variables* below), an informal review of several listings suggests that comments and updates tend to be reactive, with many occurring after the project duration has expired, and either overtly positive or overtly negative (generally indicative of success in initial funding or subsequent problems in delivery of rewards or project completion) in terms of content. We also note that controlling for the volume of disclosure in the risks and challenges section does not alter our inferences.

Optimism: Using the Praise, Satisfaction and Inspiration word lists from Diction 7.0, we measure the number of optimistic words used in the project description section and scale it by the number of words in the project description (Davis, Piger and Sedor, 2012, and Davis and Tama-Sweet, 2012). Based on research on the effect of optimistic content on capital market outcomes that suggests optimistic content can be informative (Davis, Piger and Sedor, 2012) or biased (Huang, Teoh and Zhang, 2014), in H2a we predict a significant relationship between the number of optimistic words and project success.

Specificity: Using the word lists from concreteness, temporal awareness, numerical terms, and spatial awareness from Diction 7.0, we sum the number of words from those lists in the project description and scale by the total number of words in the project description. Content from these dictionaries provides greater detail on timing, quantitative matters, and measurements as well as content that is tangible and material. Based on research on the precision of information and disclosure on capital market outcomes (Verrecchia, 1990, Tasker, 1998, and Baginski, Conrad and Hassell, 1993), in H2b we predict a positive relationship between the number of specific words and project success.

Uncertainty: Using the words lists from Diction 7.0's ambivalence and passivity dictionaries, we sum the number of words from those lists in the project description and scale by the number of words in the project description. Content from these dictionaries suggests uncertainty, hesitation, or an inability to act. In H2c we predict a negative relationship between our measure of *uncertainty* and funding success (Cho, Roberts and Patten, 2010).

Dependent Variables: Funding Success Metrics

Funding success metrics are proxies for measuring how successful the project was in attracting funding. Recall that Kickstarter has an all-or-nothing approach to funding in that a project must first reach at least 100% of its funding goal before it can receive any of the pledged funds. Accordingly, our *Funded* variable determines if 100% has been achieved and is a 0/1 dummy variable. We also consider two continuous measures that are strongly correlated with receiving full funding and consistent with the goal of attracting significant funding from a wide array of individuals: the total amount of funding pledged (.60 correlation) and the number of backers attracted (.65 correlation).

Funded: A dummy variable of one is used if the project was at least 100% funded; otherwise, zero. Projects can receive over 100% funding. This information is provided at the Kickstarter project website.

Pledged: Pledged is the amount of money in USD raised by the project to date as shown at the Kickstarter project website. This information is regularly updated. We use the natural log of this number due to skew in the distribution of the amount of funding provided (ranges from zero to in excess of 13 million dollars).

Backers: Backers is the number of backers or funders funding the project to date as shown at the Kickstarter project website and captures how successful the project was in attracting a wide array of supporters. This information is regularly updated. We use the natural log of this number due to skew in the distribution in the number of backers providing funding (ranges from zero backers to more than 62,000).

Model

$$Funding\ Success\ (Funded, Pledged, Backers) = b0 + b1 * Description + b2 * Optimism + b3 * Specificity + b4 * Uncertainty + b5 * Creator\_Website + b6 * Proven + b7 * Facebook\_Shares + b8 * Created + b9 * Backed + b10 * Duration + b11 * Global + b12 * FAQs + b13 * Comments + b14 * Pictures + b15 * Video + b16 * Updates + b17 * Rewards + Project\ Category\ dummies + e \quad (1)$$

Kickstarter.com (2015) lists fourteen categories of projects, which we control for with a series of dummy variables. Models run using the *Funded* dependent variable utilize a logit specification, while the models utilizing continuous dependent variables are run using heteroskedasticity-adjusted ordinary least squares. Given our H1, we predict a positive significant coefficient on b1. H2a is tested via b2, for which we predict a significant coefficient this is positive (negative) if optimistic content is informative (biased). H2b is tested via b3 and H2c is tested via b4, for which we predict a positive significant coefficient for b3 and a negative significant coefficient for b4.

Control Variables

We also include other measurable attributes of the project, project listing, and project creator as reported by Kickstarter. We control for the project creator listing a website (*creator_website*), as this may serve as additional credibility for the project or an alternate source of information. Additionally, we control for whether the project creator has at least one other successful project during our sample (*Proven*). We control for the length of time that the project is live for (*Duration*), the number of rewards available to funders (*Rewards*), the number of Facebook shares (*Facebook*), and the magnitude of funding required to be deemed fully-funded (*Goal*), as longer durations, greater rewards, broader social media exposure, and more modest goals may impact our outcome variables. We also control for the number of subsequent disclosures (*Updates*) that could be either positive (i.e. thanks to donors, updates on specifications) or negative (delay in product ETA, etc.), the number of comments made on the project listing (that again could be negative or positive), the number of items listed in the *FAQ* (perhaps indicative of a more complicated project), the use of videos in the listing (*videos*), the number of pictures used in the listing (*pictures*), and categorical dummy variables for the project type. All variables are more formally defined in Appendix A.

Univariate results are presented on Table 2 and suggest that successful (*Funded* =1) projects differ significantly from unsuccessful projects (*Funded* = 0) regarding most of our explanatory variables at less than the 1% level. These results suggest that successfully funded projects attract more money and more backers, offer more rewards, disclose more in multiple areas (*Description*, *FAQ*), have more specific content with less uncertainty and optimistic content, have a shorter duration and a more modest goal, attract more comments, provide more updates, attract broader social media interest, are more likely to use some pictures (but not 15+) and some video. The creator attributes also differ between successful and unsuccessful projects, as the creators of successful projects tend to create more projects, back more projects, are more likely to have gotten another project successfully funded. In terms of project category (untabulated), funded projects are more (less) likely to be categorized as film, music, comics, dance, and art (tech, design, journalism, games, publishing, food, photography, crafts, and fashion).

Table 2: Univariate Tests of Differences in Means by *Funded*

	Funded	**Unfunded**	
Backers	4.4020	1.8835	***
Pledge	8.5146	4.5672	***
Description	4.6925	4.5683	***
Optimism	0.0280	0.0285	***
Specificity	0.1094	0.1063	***
Uncertainty	0.0257	0.0271	***
Creator_website	0.8815	0.7422	***
created	1.5962	1.3826	***
backed	5.7409	1.9503	***
proven	0.1493	0.0203	***
Facebook_shares	4.3815	2.8519	***
duration	3.3637	3.4530	***
Goal	8.1731	8.8449	***
Faq	0.3428	0.1649	***
comments	1.4055	0.3957	***
picture	0.5014	0.4299	***
video	0.0779	0.0567	***
Updates	6.3540	1.4602	***
Rewards	11.0941	8.5028	***
TOTAL	40,119	62,848	

*This table examines the difference between Kickstarter projects that reached their funding goals (Funded) and those that did not (Unfunded). The sample period is from October 2012 and October 2014. All Kickstarter.com projects that had closed funding as of the end of October 2014 are included in the analysis. *, **, *** Represent a 10 percent, 5 percent, and 1 percent level of significance, respectively.*
See Appendix A for variable definitions.

RESULTS

Primary analyses of H1 and H2a through H2c using multivariate tests are presented in Table 3.

H1 predicts that the volume of disclosure will positively impact Kickstarter project funding success. We test this prediction using regression analysis with *Funded*, *Pledged* and *Backers* as dependent variables and *Description* as the independent variable. H2a through H2c are tested in the same regressions with the same dependent variables, utilizing *Optimism*, *Specificity*, and *Uncertainty* as independent variables. We note that our models have significant explanatory power, with pseudo r-squared values ranging from .4523 to .6888. As shown in Table 3, *Description* significantly affects in the predicted direction *Funded* ($p < 0.0001$), *Pledged* ($p < 0.0001$) and *Backers* ($p < 0.0001$). Thus, H1 is robustly supported for all our funding outcome dependent variables, suggesting that the volume of disclosure positively impacts funding outcomes in the crowdfunding Kickstarter setting despite being unverified and voluntary. In addition to statistical significance, our results are also economically significant as moving from the 25th percentile to the 75th percentile of *Description* increases the magnitude of pledges dollars attracted by 22.8%, increases the number of backers attracted by 6.8%, and increases the likelihood of reaching fully-funded status by 7.8%.

Table 3: Multivariate Tests of the Effect of the Volume and Content of Voluntary Disclosure on Funding Success

	DV - Funded			DV - Pledged			DV - Backers		
	Coeff	**z**		**Coeff**	**T-stat**		**Coeff**	**T-Stat**	
Intercept	5.3460	40.71	***	1.3014	14.5	***	0.9001	20.26	***
Description	0.1242	8.08	***	0.2352	22.59	***	0.0750	14.15	***
Optimism	1.6747	2.44	**	1.9430	4.17	***	0.9532	4.19	***
Specificity	3.3262	10.89	***	2.0205	9.68	***	0.5977	5.76	***
Uncertainty	-11.9795	-15.85	***	-8.2779	-16.25	***	-3.2466	-13.09	***
Creator_website	0.3959	15.32	***	0.4917	28.67	***	0.2478	30.54	***
created	-0.4087	-34.84	***	-0.1328	-19.52	***	-0.0909	-24.7	***
backed	0.0149	10.15	***	0.0091	11.12	***	0.0113	22.25	***
proven	2.3572	43.97	***	0.5263	19.15	***	0.3482	22.06	***
Facebook_shares	0.3571	74.75	***	0.5103	148.89	***	0.2402	129.02	***
Duration	-0.7782	-27.94	***	-0.3422	-17.35	***	-0.2151	-22.09	***
Goal	-0.8228	-99.02	***	0.1178	25.05	***	0.0204	9.04	***
FAQ	-0.1011	-5.08	***	0.1645	13.14	***	0.1042	14.11	***
Comments	0.9339	79.39	***	0.8131	122.84	***	0.6733	167.05	***
Pictures	0.2652	13.84	*	0.4733	37.01	***	0.2469	36.18	***
Video	-0.2734	-7.22	***	-0.0538	-2.23	**	-0.0386	-2.85	***
Updates	0.2201	71.71	***	0.0815	52.48	***	0.0569	58.62	***
Rewards	0.0535	24.8	***	0.0924	63.44	***	0.0493	61.37	***
Model	Logit			Ordinary Least Squares			Ordinary Least Squares		
Project Category dummies:	Yes			Yes			Yes		
Pseudo R-square:	0.4523			0.6015			0.6888		
Total	102,967			102,967			102,967		

*This table examines the association between the length of project description (H1), optimism (H2a), specificity (H2b), and uncertainly (H2c) on project creators' ability to meet funding goals (Funded), how much funding they raised (Pledged), and how many backers they attracted to the project (Backers). The sample period is from October 2012 and October 2014. All Kickstarter.com projects that had closed funding as of the end of October 2014 are included in the analysis. *, **, *** Represent a 10 percent, 5 percent, and 1 percent level of significance, respectively. All models presented include standard errors that are adjusted for heteroskedasticity. See Appendix A for variable definitions.*

H2a, H2b, and H2c predict that the content of disclosure will impact Kickstarter project funding success. We test this prediction using regression analysis with *Funded, Pledged* and *Backers* as dependent variables and *Optimism, Specificity* and *Uncertainty* as independent variables. Our hypotheses predict a non-directional impact on funding outcomes associated with *Optimism,* a positive impact for *Specificity*, and a negative impact associated with *Uncertainty*. As shown in Table 3, *Optimism* significantly positively affects *Funded* ($p = 0.015$), *Pledged* ($p<0.0001$), and *Backers* ($p < 0.0001$) as predicted by the informativeness argument underlying H2a. We note the economic significance of these results as a move from the 25th percentile to the 75th percentile of *Optimism* increases pledge magnitude by 3.3%, increases the number of backers attracted by 1.6%, and increases the likelihood of reaching fully-funded status by 2%.

Table 3 also shows that *Specificity* has a positive significant impact on *Funded* ($p < 0.0001$), *Pledged* ($p < 0.0001$) and *Backers* ($p < 0.0001$), consistent with H2b. This finding is both statistically significant and economically significant, as moving from the 25th percentile of *Specificity* to the 75th percentile increases the magnitude of dollars pledged by 8.4%, increases the number of backers attracted by 2.4%, and increases the likelihood of reaching fully-funded status by 9.6%. Consistent with H2c, *Uncertainty* has a negative significant coefficient on all three dependent variables ($p<0.0001$) on Table 3. This finding is both statistically significant and economically significant, as moving from the 25th percentile of *Uncertainty* to the 75th percentile decreases the magnitude of dollars pledged by 12.5%, decreases the number of backers attracted by 5.2%, and decreases the likelihood of reaching fully-funded status by 12.3%. Thus, H2 is

supported in all of our main tests, suggesting that in addition to the volume of disclosure (as noted in H1), the content of that unverified voluntary disclosure impacts funding outcomes as follows: more optimistic and more specific disclosure content positively impact funding outcomes, while uncertain disclosure content negatively impact funding outcomes.

We find that the additional disclosure mechanism or additional credibility provided by a website (*creator_website*) is significantly positively associated with all of our dependent variables ($p<0.0001$). We also note that social media activity (Facebook_Shares) is consistently positively associated with our outcomes, while a more ambitious goal is associated with more backers and dollars pledged, but also with a lower likelihood of reaching the goal. A longer duration appears to negatively impact outcomes, while activity in the comments section is positively associated with the outcomes. A proven project creator is positively associated with all three of our funding outcomes. A greater number of rewards appears to help attract backers, pledges, and reach fully-funded status. We find mixed evidence regarding involvement in the Kickstarter community: the number of projects the creator has attempted is negatively associated with our outcomes, while contributing to other creators' projects is positively associated with our outcomes. We find evidence that use of some pictures (but not excessive use) is positively associated with funding success, while video is negatively associated with funding success. Comments and updates are positively associated with funding success, while the effect of items listed in the FAQ is mixed. Table 4 presents testing of H3 using subsample analysis.

Table 4: Tests of the Differential Effects of Creator Credibility

Panel A: Descriptive Statistics and Univariate Tests of Means					
			Creator Website		
	CW=1		**CW=0**	**Difference**	
Funded	0.4312		0.2269	0.2043	***
Pledged	3.1255		1.8444	1.2811	***
Backers	6.5632		4.3121	2.2511	***
Description	4.6769		4.3809	0.296	***
Optimism	0.0280		0.0294	-0.0014	***
Specificity	0.1080		0.1056	0.0024	***
Uncertainty	0.0261		0.0285	-0.0024	***
Created	1.5087		1.2977	0.211	***
Backed	3.9074		1.5476	2.3598	***
Proven	0.0783		0.0406	0.0377	***
Facebook	3.7008		2.4578	1.243	***
Total	82,014		20,953		
Panel B: Multivariate Tests of H3a and H3b					
			Backers		
	CW=1		**CW=0**		
	Coefficient		**Coefficient**	**Difference**	
Description – H3a	0.0616	***	0.1032	*** -0.0416	***
Optimism – H3b	1.2524	**	0.1210	1.1314	***
Uncertainty – H3b	-3.1917	***	-2.6756	*** -0.5161	
Specificity – H3b	0.5139	***	0.8249	*** -0.311	
			Pledged		
Description	0.1844	***	0.3456	*** -0.1612	***
Optimism	2.2614	***	0.2224	2.0390	**
Uncertainty	-7.7587	***	-7.7127	*** -0.0460	
Specificity	1.8095	***	2.6110	*** -0.8015	*

*This table examines whether project creator credibility has a differential effect on the main effects of the volume and content of voluntary disclosure on project funding success. We partition projects by whether the project creator disclosed a website (CW=1) on the Kickstarter page or not (CW=0). Panel B reports the results of multivariate analysis to test H3a (Description), and H3b (Optimism, Uncertainty, Specificity). *, **, *** Represent a 10 percent, 5 percent, and 1 percent level of significance, respectively. See Appendix A for variable definitions.*

To test H3, we split our sample into two subsamples by the *creator_website* dummy variable. The rationale behind this analysis is that project creators with a website may have a greater credibility than project creators not reporting a website, or alternatively may use the website as an additional disclosure mechanism to enhance credibility. Such credibility or additional disclosure may alter the impact of both the volume and content of disclosure on project funding outcomes. Using *creator_website* as a partition allows for a split of the data that is not too extreme (79.7% of projects list a creator website, while 21.3% do not). Panel A of Table 4 presents univariate results of tests of means when partitioning by *creator_website*. These tests suggest that on average, projects listed by creators with a website are more likely to be 100% funded, attract more backers, attract more funding, disclose more (*Description)*, use more specific content, and use less uncertain and less optimistic content. Creators disclosing a website also attracts more Facebook shares, are more likely to be *Proven* and more likely to create other projects and back other projects. Variance-inflation factor (VIF) concerns preclude us from considering interactions between *Creator_Website* and our measures of the volume of voluntary disclosure and the content of voluntary disclosure. We therefore opted to run our regression models separately on the subsamples of *Creator_website*=1 and *Creator_website*=0. We present the coefficients and statistical significances for our independent variables (*Description, Optimism, Specificity, Uncertainty*) for each continuous dependent variable (*Funded, Pledge*) as well as tests of the differences in coefficients across the subsamples on Panel B of Table 4 for our continuous dependent variables. Multivariate analyses of these partitions show that while the volume of disclosure consistently has a positive significant impact on both continuous project funding outcomes, the impact of voluntary disclosure is greater when the creator lacks the credibility or additional disclosure outlet provided by a website (where *Creator_website*=0).

This suggests that the volume of disclosure takes on additional importance when the discloser lacks credibility, mitigating the absence of credibility or substituting for that credibility. This subsample partition analysis also shows that the coefficient on *Optimism* varies between our subsamples, and is only positive and statistically significant when the project creator has the credibility or additional disclosure mechanism of a website (the subsample where *Creator_website*=1), suggesting that one component of the content of voluntary disclosure is complemented by creator credibility (Karamanou and Vafeas, 2005), or more plainly that *Optimism* is only viewed as diagnostic to the prospective funder when the project creator is more credible. *Specificity* has a positive significant coefficient for both attracting backers and pledge dollars across both subsamples. The coefficient on the low credibility / no website group is mathematically larger for both continuous dependent variables, however it is only statistically significantly larger for *Pledged*. The effect of *Uncertainty* is consistently negative and significant for all dependent variables and in both subsamples, suggesting that overly vague, uncertain, or passive content has a similarly negative effect regardless of project creator credibility. This is consistent with related voluntary disclosure literature that finds that bad news is viewed as unconditionally relevant or informative, while good news requires additional attributes to be informative (Hutton and Stocken, 2009, Hutton, Miller and Skinner, 2003, Ng, Tuna and Verdi, 2013). Taken as a whole, these results suggest that less credible project creators benefit more from greater disclosure and more specific content, while optimistic disclosure content is only effective when used by more credible project creators. In contrast, disclosure content with greater uncertainty decreases funding success, regardless of the discloser's credibility.

We take a similar subsample approach for H4, partitioning the sample by more and less competitive project categories. We consider a category more (less) competitive if the projects category's average value of *Funded* is below (above) the overall sample average. Therefore, projects in a high (low) competition category are less likely (more likely) to reach fully-funded status relative to the overall population average. For example, projects in the music category (designated low competition) constitute 15.3% of all projects but 21.3% of successful projects and reach fully-funded status 54.1% of the time. This higher unconditional success rate would suggest less competition for limited resources relative to publishing (designated high competition), which is 11.8% of the overall sample but only 9.4% of successful projects and reach fully-funded status 31.1% of the time. Thus, the projects in publishing are fighting longer odds and more intense

competition to get fully funded. As shown in Table 5, we split the sample into a more competitive group (where the unconditional odds of success are low) and a less competitive group (where the unconditional odds of success are high), and run our model on each subsample, dropping the project category variables (that create the partition). Accordingly, Table 5 presents multivariate analyses of related variable means in Panel A, and of H4a and H4b in Panel B.

Table 5: Tests of the Differential Effects of Market Competition

Panel A: Descriptive Statistics and Univariate Tests of Means

Panel A: Descriptive Statistics and Univariate Tests of Means						
	Competition Level					
	Low		**High**		**Difference**	
Funded	0.4527		0.3186		0.1341	***
Pledged	6.3746		5.8022		0.5724	***
Backers	2.9825		2.7324		0.2501	***
Description – H4a	4.6356		4.5954		0.0402	***
Optimism – H4b	0.0281		0.0285		-0.0004	***
Specificity – H4b	0.1088		0.1061		0.0027	***
Uncertainty – H4b	0.0261		0.0271		-0.0010	***
Created	1.4387		1.4962		-0.0575	***
Backed	3.18		3.7051		-0.5251	***
Proven	0.0696		0.0718		-0.0022	
Creator_website	0.8263		0.7631		0.0632	***
Total	54,499		48,468			
Panel B: Multivariate Tests of H4a and H4b						
	Competition Level					
	Backers					
	Low Coeff.		**High Coeff.**		**Difference**	
Description	0.0545	***	0.1027	***	-0.0482	***
Optimism	1.1456	***	2.0642	***	-0.9186	**
Specificity	0.3015	**	1.5347	***	-1.2332	***
Uncertainty	-4.0701	***	-3.1709	***	-0.8992	*
	Pledged					
Description	0.1893	***	0.3058	***	-0.1165	***
Optimism	2.3005	***	3.8453	***	-1.5448	*
Specificity	1.2631	***	3.7956	***	-2.5325	***
Uncertainty	-9.3433	***	-8.8172	***	-0.5261	

*This table examines the differential effect of project market competition on the main effects of the volume and content of voluntary disclosure on project funding success. Competition level is assessed at Low (High) for the following project categories: music, film and video, art, comics, dance (tech, publishing, photography, journalism, design, crafts, food, and games). Panel B reports the results of multivariate analysis to test H4a (Description), and H4b (Optimism, Uncertainty, Specificity) via project market competition subsamples. *, **, *** Represent a 10 percent, 5 percent, and 1 percent level of significance, respectively.*
See Appendix A for variable definitions.

Panel A of Table 5 presents univariate tests of means of the subsamples generated using the competition partition. These tests suggest that relative to the more competitive project categories, the less competitive project categories are more likely to be fully funded (by construction), attract more backers and funding, disclose more, use less optimistic content and less uncertain content, but more specific content. Project creators in the less competitive project categories also create and back fewer other projects and are more likely to disclose a website. The multivariate results of that analysis, presented on Panel B of Table 5, test H4a and H4b. Results indicate that the volume of disclosure has a consistently positive impact on both continuous measures of project funding success across both subsamples. However, it has a larger positive

impact in more competitive projects market, consistent with prior literature (Darrough and Stoughton, 1990, Harris, 1998, Botosan, 1997, and Li, 2010). In terms of the content of the disclosure, specific content also consistently positively impacts project funding success across both subsamples, however it has a larger positive impact in the high competition subsample, consistent with the idea that product market competition can influence disclosure (Li, 2010). Optimistic content positively and significantly impacts both subsamples as well, however the magnitude of the effect is larger in the more competitive subsample. *Uncertainty* is consistently negative and significant across subsamples for both dependent variables, however the differential effect is not significant when considering competition intensity for the dependent variable *Pledged* and is marginally significant for *Backers*. These results suggest that in more competitive project markets, volume of disclosure, specific content, and optimistic content matter even more than in less competitive environments.

Robustness Checks

We considered a limited sample univariate and multivariate comparison of only unproven creators. This analysis suggests that our main findings are not driven by proven creators, as the coefficients on our variables of interest are qualitatively similar in terms of significance and signed direction when removing proven creators from the sample.

CONCLUSIONS

We examine the impact of voluntary disclosure on capital acquisition success in a crowdfunding setting. Crowdfunding is a relatively new method for seeking financing that has extremely high agency costs, i.e., severe information asymmetry and high adverse selection concerns. Further, crowdfunding information has many unique features compared to mainstream business disclosures. Information disclosures on Kickstarter and other crowdfunding sites are largely voluntary and unverified. On Kickstarter, in particular, the only formal oversight is an initial screening of project listings to minimize outright scams and projects promising rewards of products where there is not a working prototype. Further, there is no independent verification of or mandatory requirements for the disclosures provided by the Kickstarter project creator. Additionally, Kickstarter does not follow up with successfully funded projects to ensure that the rewards promised in the project are actually delivered, leaving it wholly up to the project creator to manage and deliver the promised rewards. Accordingly, we conjecture that unverified projects and lack of oversight of the delivery of rewards on Kickstarter projects conflictedly incentivize project creators to both transparency and opacity in disclosing the true nature of the project and the risk and challenges associated with it. Consequently, we examine whether the volume of voluntary disclosures, the content of voluntary disclosures, and attributes of the project creator are associated with crowdfunding success as indicators of how project funders use the information provided by project creators on Kickstarter.

We analyze 102,967 projects posted on the crowdfunding site Kickstarter.com between October 1, 2012 and October 31, 2014. Since crowdfunding regulations have increased after 2014 (Cascino, Correia and Tamayo, 2019), our dataset is especially interesting because it contains a less regulated and more voluntary disclosure environment than subsequent data. We consider the impact of voluntary, unverified disclosures along with the credibility of the discloser and market competition on crowdfunding outcomes using this large dataset. We find that despite the disclosures being unverified, greater volume of voluntary disclosure is positively associated with the three project outcomes measured: a greater likelihood of achieving funding success, attracting more backers, and attracting a larger amount of funding. Additionally, results indicate that the content of the disclosure also influences those same project funding outcomes: optimistic content and specific content improve the outcomes, while uncertain content negatively impacts them. We also find that discloser credibility and greater market competition influences these outcomes. Specifically, optimistic content requires creator credibility to be effective, while uncertain content is negatively effective regardless of such credibility; and specific content as well as disclosure volume has a larger impact when the creator

lacks credibility suggesting a substitution effect of greater specificity or more disclosure for credibility. The product market competition analysis suggests that the positive impact of the volume of voluntary disclosure, optimistic content, and specific content increases in a more competitive project market.

These results suggest that in the absence of typical mechanisms to overcome agency costs (e.g., corporate governance, blockholders, mandated disclosures, etc.), and despite disclosures on the Kickstarter website being completely unverified, voluntary disclosure aids in reducing information asymmetry and mitigating adverse selection concerns. We interpret this evidence to suggest that project creators use content in the project description as well as fuller disclosure to communicate important diagnostic information regarding the project to potential backers. These results suggest that potential backers consider project creators' disclosures to be at least partially credible signals and accordingly believe themselves to be able to make more informed funding decisions. Overall, our results suggest that project creators use disclosure volume and content within the disclosure to signal the credibility of the project, despite the disclosure being voluntary and unverified. While the possibility still exists that promised rewards may not materialize to capital providers, this unique capital market is operating effectively and not suffering from a severe "lemons" problem (Akerlof, 1970) despite relying on unverified voluntary disclosure and minimal oversight. Limitations to our paper include the proxies we used voluntary disclosure, i.e., volume, content and creator attributes. Different proxies may give different results, although we have no reason to expect this. A second limitation stems from using Kickstarter as the source of our data. Kickstarter is reward-based primarily and does not allow cash or equity funding.

Data derived from loan-based or equity-based crowdfunding sites may result in different findings. A third limitation is that we are able to measure project success only to the point of whether the project is fully funded and are not able to follow projects into the production stage. However, if reward delivery failure were prevalent or rampant, we would expect a significantly lower percentage of projects to reach fully-funded status (Akerlof, 1970). Finally, since we use 2012-2014 data, our analysis is limited by subsequent changes to crowdfunding, especially regarding disclosure requirements and regulations. After 2014, there have been significant changes in mandatory crowdfunding disclosures and US Federal regulations have eased requirements for legal action of investors against crowdfunding projects (Cascino, Correia and Tamayo, 2019). We believe that the results of this study can contribute to increasing successful crowdfunding efforts by providing insights to both those seeking funding and prospective backers into the information environment of crowdfunding. Specifically, our results suggest that increased regulation and oversight of crowdfunding markets may not be a critical factor in making those markets an effective avenue for raising capital.

APPENDIX A

Dependent Variables

Funded: Dummy variable =1 if the project was at least 100% funded; zero otherwise.
Pledged: Pledged is the natural log of the amount of money in USD raised by the project as shown at the Kickstarter project website.

Backers: Backers is the natural log of the number of backers or funders funding the project as shown at the Kickstarter project website

Independent Variables

Description: The natural log of the number of words in the project description section (main section) of the Kickstarter.com website, counted using content analysis software.

Optimism: Using the Praise, Satisfaction and Inspiration word lists from Diction 7.0, we measure the number of optimistic words used in the project description section (Davis and Tama-Sweet, 2012) and scale it by the number of words analyzed.

Specificity: Using the word lists from concreteness, temporal awareness, numerical terms, and spatial awareness from Diction 7.0 scaled by the number of words analyzed.

Uncertainty: The Diction 7.0 variables relating to ambivalence and passivity, as this content suggests uncertainty, hesitation, or an inability to act. The sum of ambivalence plus passivity is scaled by the number of words analyzed.

Control Variables

creator_website – categorical variable represented by 1 if the project creator linked to a website on the Kickstarter page and 0 otherwise.

Backed – the number of Kickstarter projects the project creator has supported in the past.

Proven – categorical variable designated as 1 if the project creator has had one or more Kickstarter projects successfully funded before the project was created, 0 otherwise.

Duration – the natural log of the number of days the project is live.

Rewards – the number of rewards available to funders

Facebook – the natural log of the number of Facebook shares,

Goal – the natural log of the magnitude of funding required to be deemed fully-funded
Updates – the number of disclosures subsequent to the project creation

FAQ – natural log of the number of items listed in the *FAQ*

Comments – the natural log of the number of comments made on the project listing
Videos – one if the project description included videos, 0 otherwise.

Pictures – a dummy equal to one if the project uses between 1 and 15 pictures, zero otherwise.

project_type – 1 if project was in the category: Art, Comics, Crafts, Dance, Design, Fashion, Film & Video, Food, Games, Journalism, Music, Photography, Publishing, Technology, Theater and 0 otherwise.

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