Successful Crowdfunding: Leveraging Digital Resources on Kickstarter

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Abstract

Entrepreneurs in Canada started using Kickstarter, a crowdfunding website, to finance their creative ideas in 2009. Kickstarter uses an All-or-Nothing (AON) model whereby the fundraiser must meet or exceed the amount they set as their funding goal for the funds to be released to the entrepreneur for their project. As a result, entrepreneurs try to provide the crowd with a sufficient amount of soft information about themselves and the project to reduce the risk of not receiving any pledges. Some examples of soft information include photos, video pitches, a list of relevant projects and/or employers that the entrepreneurs worked with on their profile page (Ahlers, Cumming, Guenther & Schweizer, 2015). Existing studies found that projects that achieve their funding goals also include hyperlinks or quotes from outside organisations, online articles and/or prominent blogs, which made the project seem legitimate (Mollick, 2013). Hence, the larger the goal and/ or the riskier the project, we expect the entrepreneur to provide more soft information to ensure the project is successful and that they can cover their fixed costs. In this paper, we examine how Canadian start-ups use the digital economy to build and promote their business and brand on Kickstarter to obtain funding from the crowd. The paper focuses on three research questions: First, we examine whether the use of social media and portfolio websites increase the probability of completing a successful campaign. We predict that online transparency and presence affect the funding success of projects on Kickstarter. Second, building a portfolio website requires the entrepreneur to have skills and experience using digital media. Hence, we focus on the products offered by each project as an indicator of the founders' skills. We hypothesise that creators of digital products are more likely to build portfolio websites while entrepreneurs promoting physical products rely on social media. Lastly, considering the importance of creativity to the digital economy, we examine the entrepreneur's location. We hypothesise that entrepreneurs located closer to the creative clusters in Canada are more likely to create portfolio websites and take advantage of the digital economy. The paper analyzes a sample of 2,177 Canadian Kickstarter projects. We first categorize the projects into digital, physical and a mixture of digital and physical subsets, as well as by location. We determine whether the propensity to use a portfolio website depends on location, and whether such a site's use increases funding success.

Kickstarter has become a key source of crowdfunding used by entrepreneurs and business owners to launch their projects and expand their businesses. The platform's All-or-Nothing (AON) model requires that a particular project meet or exceed a predetermined target funding goal within a predetermined time period or fundraising window. This means that a project listed on Kickstarter is only successful (and that the project creator is only allowed to retain the pledged funds) if (a) the target funding amount is met or exceeded; and if (b) the target amount is met or exceeded by the pre-selected fundraising end date.

As the crowdsourcing platform continues to increase in popularity, the factors that impact a project's credibility and chances of achieving its target amount of funding are becoming increasingly important. Within a project page, Kickstarter allows project creators to include information in the form of text descriptions, photos and videos, as well as links to websites and social media. It is through these links that backers may find out more information about the project looking to be funded or about the individual or team working on the project. Potential backers of projects also have access to the "Author Description" page, where the project creator is able to provide background information about themselves including but not limited to: their location, their education and their previous work experience. This is achieved either through text description and/or the inclusion of links to other websites.

There are no required fields when creating either the project or author descriptions other than (a) the project title, (b) the categorization and subcategorization of the project, (c) the location of the project and author, and (d) the funding goal. It is thus at the discretion of the project creator to include whatever information they deem relevant to backers in order to provide themselves with the greatest chance of crowdfunding success.

This paper will aim to examine and explain which variables affect crowdfunding success on Kickstarter and whether Canadian entrepreneurs and start-ups are using the digital economy and resources to enhance their chances of success on the platform. In this paper, we will study whether the inclusion of social media and portfolio website links within a Kickstarter project's page increases the probability and level of funding success. We hypothesize that increased online transparency and presence positively influence the backing of a project. We find that whether the number and type of website links included (social media, portfolio website, or a combination of both) has a statistically significant impact on success depends on the "project type". We have identified project type as either digital projects, physical projects or mixed media projects.

Many project creators include links to portfolio website(s) within their project page. Building a portfolio website requires experience using and building digital media content and/or platforms. We hypothesize that the inclusion of portfolio websites within a project description is more significant to the funding success of the "digital project" type (i.e. projects requiring only digital media skills) as compared to other project types. The creators of physical projects are expected to rely on social media platforms as their projects do not require that they possess digital media skills or savvy. We conclude that the use of portfolio websites has a positive and statistically significant impact on these digital projects.

The purpose of crowdfunding sites like Kickstarter is to remove geographic barriers, allowing for projects from all locations across Canada to succeed. We, however, hypothesize that proximity to creative clusters within Canada increases a project's funding success. We believe that the creators of these projects will be more able to take advantage of the digital economy and thus will be more able to create the relevant content needed to help their project succeed. Conversely,

we will conclude that a project's location within a digital media or creative cluster does not have a statistically significant impact on funding success.

Kickstarter: A Crowdfunding Platform

Crowdfunding platforms, such as Kickstarter, act as intermediaries which connect the project initiator with potential backers who provide the necessary funds to help realise a project. Generally, project initiators and backers are private individuals, but in some cases, they are non-profit organisations or start-ups. Backers choose to financially support the project initiator and make their investment decisions based social networks and free-riding behaviour. This means that the backer is aware of the decisions made by other backers and is therefore influenced to support the project by observing the way other backers behave (Gierczak, Bretschneider, Haas Blohm & Leimeister, 2016). Furthermore, the crowdfunding platform follows a set rules which regulate how and when the website releases the funds which are pooled from investors to the project initiator. These set of rules are known as the payout model (Tomczak & Brem, 2013). Kickstarter uses a payout model known as the All-or-Nothing (AON) model.

At the start of the project, the AON model requires the project initiator, also known as the entrepreneur, to meet or exceed the amount they set as their funding goal in order for the funds to be released to the entrepreneur. If the campaign is successful, all the backers' credit cards are instantly charged and the funds are transferred to the entrepreneur to allow them to start creating their project. However, if the campaign fails then all the pledges are cancelled. From the investor's perspective, this model is associated with low risk as it protects the investor from being overzealous. Essentially, the model protects "optimists and foolhardy investors from their own improvidence" as more rational consumers need to be persuaded to invest for the transfer to take place. This also forces the fundraiser to set a realistic funding goal and to carefully create a budget

before they request funding. As a result, the model prevents fraudulent campaigns as each project is reviewed and scrutinized by multiple potential investors which increases the chances of a fraudulent campaign being exposed (Tomczak and Brem, 2013).

Essentially, the "All-Or-Nothing" model places the risk on the entrepreneur. This is because the structure of the payout model indicates to the crowd that the entrepreneurs using their platform are serious and looking for funding to complete the project. If the entrepreneur fails to raise enough capital, they do not receive the funding and bear the fixed costs associated with the project. The entrepreneur therefore proves that there is minimal risk involved in investing in their project by using an AON platform, such as Kickstarter, to raise capital (Cumming, Leboeuf and Schwienbacher, 2015).

In return for their donation, the entrepreneur provides the investor non-monetary incentives. Platforms which allow this type of transaction are called hedonic platforms as they facilitate a hedonistic value proposition; the investor receives pre-ordered products and rewards for their contribution. In order to reduce the risk of underfunding and to motivate backers to spend more money, hedonic platforms use the all-or-nothing principle and require the entrepreneur to set a minimum pledge amount that the campaign must reach to obtain the funds. These platforms foster a sense a joy and interest amongst backers to raise funds for the project (Gierczak et al., 2016). Kickstarter uses a combination of a hedonic model, reward model and pre-purchase model. According to Harrison (2013), a reward model offers backers a nominal token for their contribution, such as a tee-shirt or a name check credit on a CD sleeve. In a pre-purchase model, however, the backer receives the final product. This provides the entrepreneur with capital and market validation in the form of demonstrable demand for the product which they can use to obtain additional funding from traditional sources. Due to the demand for the product, the firm can prove

that there is minimal risk in the developmental process and overcome the liability of newness. Entrepreneurs can choose the type of reward they wish to give the backers based on the amount of money they choose to donate to the project. These rewards can be as small as a thank you note or large as the final product once the project is complete.

Entrepreneurs who choose to give the final product to the backers must have a prototype, blueprint or tentative product to offer the contributor. The initial seed fund is therefore used to cover production costs. This means that the project initiator is required to have an established track record of work or a performance history as a business to receive funding from investors (Tomczak and Brem, 2013). The entrepreneur must also cover the costs associated with the rewards. As a result, entrepreneurs who choose platforms that use the AON model tend to set higher funding goals to ensure that they can cover all their costs, fixed costs in particular. Therefore, firms using the AON model provide the crowd with more soft information using photos, video pitches and longer but easier to read project descriptions to reduce the risk of not receiving any pledges. In fact, the larger the goal and/ or the riskier the project, the more soft information provided by the firm (Cumming, Leboeuf and Schwienbacher, 2015). Essentially, the entrepreneur attempts to send as many signals as possible to the crowd which indicate that they are prepared and capable of launching a successful project. Backers should therefore take the risk and invest in the project.

Successful Signals to Encourage the Crowd to Invest

Prior to investing, angel investors and venture capitalists spend a substantial amount of time evaluating the entrepreneur and their firm. In this process, which is referred to as due diligence or screening, investors scrutinize the entrepreneur's personality, experiences and abilities as well as their business plan, budgets, marketing, financial statements and strategic plan (Paul, Whittam and Wyper, 2007). However, it is unlikely that backers carry out the same level of due diligence

as they tend to be more concerned with idea behind the project as opposed to the details about the business and the entrepreneur's plans (Tomczak and Brem, 2013). This is because it is not feasible for backers to carry out detailed screening as they face asymmetric information and cannot access the entrepreneur. In most cases, the crowd is not sophisticated enough to screen the project or want to deal with conducting a thorough investigation about the project. As a result, the crowd relies on signals provided by the firm to judge the project and make their investment decision (Lehner, 2014).

The problem arises because the financing process in crowdfunding should not rely on a model where sensitive information is required or distributed to the crowd of investors in order for the screening process to take place. According to previous entrepreneurship research, the disclosure of sensitive information regarding start-up ventures can be detrimental to the success of a company therefore crowdfunding poses a significant risk to the firm. However, crowdfunding requires the entrepreneur to disclose sensitive information regarding their project, in order to allow the crowd to perform due diligence prior to the investment decision. The firm may be reluctant to share such information. Therefore, crowdfunding models need to allow firms to disclose enough information to allow investors to make an informed decision while keeping enough information confidential to ensure they have a competitive advantage. Consequently, the crowd relies on signals to make investment decisions when they do not have sufficient information (Ley & Weaven, 2011).

According to Mollick (2013), there are three signals which entrepreneurs utilize on crowdfunding websites. Firstly, he found that entrepreneurs who demonstrate a history of successful projects are more likely to obtain crowdfunding. In particular, he found a positive relationship between projects which received funding and the availability of a list of relevant

projects and/or past employers by name. Secondly, he found entrepreneurs who indicate third-party endorsements are more successful in being funded. He used hyperlinks or quotes from outside organisations, online articles and prominent blogs as a signal which made the project seem legitimate. Lastly, he discovered that entrepreneurs who demonstrate preparedness are more likely to be funded. Essentially, projects which had a prototype, an early version of the product or produced a video as part of their product pitch were more successful in obtaining the necessary funding. Overall, investors use the entrepreneur's history as a signal to determine whether they have the relevant background to build a successful project. Investors look for third-party validation about the legitimacy of a project and analyse the firm's level of preparedness when pitching their product.

Furthermore, Ahlers, Cumming, Guenther and Schweizer (2015) analysed the relationship between successful projects and the quality of human capital that is associated with project. A high level of human capital generally refers to higher capabilities and skills about various aspects of entrepreneurial success, i.e. identifying and exploiting business opportunities; defining and realizing a venture's strategy; acquiring additional resources; and building a positive basis for future learning. Human capital is used by experienced investors that conduct significant due diligence and/or investors that require collateral and other guarantees, such as VC investors, business angels and banks. Existing research has established that VCs use experience and management skills important indicators when making their decisions. Ahlers et al. (2015) found that as the number of MBA graduates on the board increases, the amount of funding received increases as well. Similarly, the more mature ventures, which is a proxy used for the number of years in business, had a higher likelihood of quickly closing their first financing round.

Subsequently, the entrepreneur's experience plays a crucial role in providing potential backers with a positive signal with respect to the project.

Nevertheless, Buttice, Colombo, Franzoni and Rossi-Lamastra (2015) argue that the assumption that all signals are univocal and universal is too simplistic. This is because uniform signals do not work in contexts where receivers have diverse preferences with respect to the unobserved quality of the project. Segmented responses to signals can be encountered in all markets in which there are segmented customers' preference or the buyer's make decisions under asymmetric information. Therefore, under circumstances where the preferences of the receivers are heterogeneous rather than homogenous, receivers can be grouped into segments that value different project characteristics. Consequently, the response to a signal is unpredictable as the same signal may trigger a different response from different segments. If the signal is coherent with the segment's preference then it is known as preference-reinforcing but if the signal is incoherent then it called preference-dissonant. However, if the signal is unrelated to the segment's preferences then it is preference-neutral. Receivers respond positively to preference-reinforcing and preference-neutral signals, and respond negatively to preference-dissonant signals.

For example, the signal of the artistic value of a filmmaker triggers a positive response when the film is targeted towards the artistic audience but triggers a negative response when the film is targeted towards the mass-market. Similarly, films which rely on hiring famous stars trigger a positive response when the film is targeted at the mass-market and trigger a negative response when the film is targeted to the artistic audience (Buttice, Colombo, Franzoni & Rossi-Lamastra, 2015). Kim and Viswanathan (2016) found similar results where experts are more likely to invest first in apps and the remaining crowd then mimics the expert's behaviour. The results indicate that the early investors for live apps consist solely of experienced investors while the early investors

for concept apps are made up of both experienced and app developer investors. This suggests that app developer investors are more confident about concept apps which are in the development stage. However, experienced investors, who provide a list of apps they invested in which were successful on their profile, influence the crowd to invest in both live and concept apps. On the other hand, app developer investors are only influential over concept apps, if the app developer investor provides a list of successful apps that they developed on Appbackr.

Subsequently, project initiators provide soft information in the form of videos, photos and detailed descriptions on Kickstarter. Their aim is to provide sufficient information so that all receivers view the information as positive signals. The aim of the paper is therefore to determine whether building a personal portfolio website results in a positive signal for the crowd.

Digital Media Clusters in Canada

The three main digital media clusters in Canada are located in Toronto, Montreal and Vancouver. With respect to Montreal, the video games sector dominates the digital media industry and is anchored by the presence of Ubisoft. (Tremblay and Rousseau, 2005). The cluster has an environment where artists and artistically minded individuals can find and help each other. This helps build and "nurture the creative milieu." Similar to most creative cities, Montreal has an artistic underground which is described as a 'viral marketing', word of mouth, low-cost communications and distribution channel for emerging artists and designers. The channel is used to spread information about job openings, performances and artistic events. Subsequently, there are low to nonexistent barriers to entry into the market. Artists can therefore live the "techie-by-day; artist-by-night" life. Essentially, strong ties exist at the individualistic level as opposed to the corporate level. Nonetheless, this dynamic allows businesses to find and utilize independent designers; it also allows independent designers to make their skills and services known.

Another reason why independent artists are attracted to Montreal is because of the arts and cultural events in the area: this indirectly drives growth. In Montreal, the artists have a greater direct impact on the region's growth therefore the connections between the artists play a pivotal role in the region (Stolarick and Florida, 2006). According to Pilon and Tremblay (2013), Montreal's creative class creates a "low-cost high-creativity" culture which portrays an "entrepreneurial spirit".

In contrast, Toronto's digital media sector is predominantly made up of the television and movie industry. Toronto's digital media cluster emerged due to the presence of large head-offices, particularly those in the financial services sector. The advertising industry initiated the growth of the digital media sector by outsourcing their television and online content production to specialized new media firms. Moreover, the entertainment segment grew because the market favoured Toronto's Anglo-Canadian cultural industry sector, such as the visual arts, live theatre, music and publishing industries. The film production industry emerged from the theatrical environment which created demand for content produced by Canadian television networks. These digital services led to the growth to broader entertainment segments, e.g. gaming (Britton and Legare, 2005). In Vancouver, however, the two largest digital media sectors are the digital gaming and TV/ Film sectors. The cluster in Vancouver is relatively smaller and newer than the clusters in the rest of Canada (Barnes and Coe, 2010). Therefore, Smith, McCarthy and Petrusevich (2004) argue that either the cluster is new and emerging or Vancouver is experiencing a "whirlwind of activity focused around the technological excitement of new media". Nevertheless, this paper characterises the projects located in these three cities as part of the digital media cluster.

Data

To perform our analysis, we are using Canadian Kickstarter project data from 2009 to 2014. We are examining only Art and Digital Media related projects and have access to 2177 observations (2230 total projects less 53 deleted profiles). Kickstarter classifies these projects into industry-specific categories (i.e. technology, fashion, music, etc.) and product-specific sub-categories (i.e. children's book, webseries, tabletop game, etc.).

The variables we will be examining in our analysis include: target capital, the amount of funding that the project creator is asking for; pledged capital, the amount of funding the project actually receives from backers (can be greater than target capital); the number of images included in the project description; the number of videos included in the project description; whether the project creator is an individual or a company; whether the project creator mentions a company in their personal description; the number of websites included within the project description; the inclusion social media website links in the description; and the inclusion of portfolio websites (personally created/company websites) in the project description.

We will also be examining location as a variable impacting project funding. Data regarding project location is limited to city and country-specific information. No specific geographic coordinates are available and Kickstarter does not require that project creators provide proof of location. It should be noted that Author (Project Creator) location and Project Location may vary for a project. For the purpose of our analysis, we will be examining only the listed project location.

Finally, we will also be looking at how Kickstarter funding success is impacted by project type. Specifically, we will be looking at whether the project requires digital media skills or not. We have defined "digital media skills" as skills used to find, evaluate, share, and create content using Information Technologies and the Internet. We have classified projects that require only these digital skills as "Digital Projects" (i.e. apps, video games, software, etc.). Projects that do

not require such skills have been categorized as "Physical Projects" (i.e. books, restaurants, etc.). Projects requiring a mixed set of skills (both digital and otherwise) have been listed as "Mixed Media Projects" (film production, computer hardware, etc.). Of the total observations, 45.8% are physical projects, 42.6% are mixed media projects and 11.5% are digital projects.

Impact of Location on Funding

With respect to location, 53.5% of all projects were located in three cities: Toronto (50.8%), Montreal (28.1%) and Vancouver (21.1%). In order to determine the impact of a project's location on funding success, we performed a Local Moran's I test which looks for clustering in space by testing the relationship that each observation (location of a project) has with the observations around it using a pair of pre-determined connectivity and weights matrices. The test looks for a correlation between the value of observation i and the values of observation j1, j2....jn, and tests to see whether or not the relationship is significant at a pre-set level. The test can return five possible results: insignificant relationship, a high-high or low-low relationship (strong positive correlation), or a high-low or low-high relationship (strong negative correlation).

For this analysis, a Local Moran's I test was run on Canadian cities using a queen connectivity matrix and an equal weights matrix. The test was run three times: first, it was run to look for a relationship between the number of Kickstarter companies located within cities; second, it was run to test the number of companies and individuals located within cities; and third, it was run to test the number of companies within a city normalized by population.

In each of these tests, the only significant (at a 0.05 level) clustering found to exist was three high-low clusters in the cities of Toronto, Vancouver, and Montreal. Otherwise, all other cities showed an insignificant degree of clustering. Therefore it is arguable that these three cities constitute creative clusters in Canada.

The reason that the Moran's I values were not included in our regression model is due to the relatively small number of significant observations (city locations). In the context of a high number of insignificant or 'no data' observations within the data set, inclusion of the Moran's I values would contribute a high degree of heteroscedasticity to our model without providing a substantial degree of explanatory power. As such, the results have been used to identify Canadian clusters, which in turn have been made into a dummy variable.

Looking at Toronto specifically, the Film & Video, Music and Technology project categories comprise the three highest shares of Kickstarter projects, respectively. This is also true of Film & Video, Music and Design in Vancouver, and Film & Video, Music and Games in Montreal.

Interestingly, only 10.8% of projects in these digital media clusters are "Digital Projects" (with 12.0%, 9.8% and 15.6% for Toronto, Vancouver and Montreal, respectively). Most of the projects located within a cluster are mixed media projects, accounting for 46.2% of all projects (across clusters).

Regression Models

In order to determine the variables affecting funding success, we performed a regression where our independent variable is the proportion of pledged funds relative to a project's target amount (pledged amount divided by the target amount).

Proportion of funding success = $\beta_0 + \beta_1 NumberofWebsites_i + \beta_2 Website_j + \beta_3 X_i + e$

Where,

Websites = $\gamma_1 NumberofImages + \gamma_2 NumberofVideos + \gamma_3 MentionACompany + \gamma_4 Company$

$$+ \gamma_5 Cluster$$

and

j = {physical, digital, mixed media project}

The variable of interest in this model is β_1 which captures the proportion of the funding goal that the entrepreneurs gains from posting an additional website. Based on previous research, entrepreneurs gain more funding by providing soft information in the form of videos, images and provides information about companies that they previously worked in. As a result, these variables are included in the regression. The aim is to determine the additional proportion of desired funding obtained by using a website to also provide further dost information.

Logistic regression:

We also perform a logistic regression wherein we model funding success as a categorical, binary variable (reaching funding goal or not). The remaining variables in the equation are also binary categorical variables. The model is as follows:

$$\text{Probability of funding success} = \beta_0 + \beta_1 \text{SocialMediaLinks} + \beta_2 \text{PortfolioLinks} +$$
$$\beta_3 \text{MixedWebsiteLinks} + \beta_4 \text{MentionCompany} +$$
$$\beta_5 \text{Company} + \beta_6 \text{ImageIncluded} +$$
$$\beta_7 \text{VideoIncluded} + \beta_8 \text{LocatedCluster} + \beta_9 \text{ProjectType}_j + e$$

We are interested in the odds of a project being successful when the entrepreneur uses either a social media website, a portfolio website or a combination of the types of websites. We are therefore interested in the variation in β_1, β_2 and β_3. Once again, we are holding constant any other form of information provided using digital resources.

Results

Using a logistic regression, we find that the type of website links included, the mention of a company, the type of project creator (individual or company), the inclusion of images and videos and location within a digital media cluster all increase the odds of success as it relates to project funding.

The odds of success (probability of success over probability of failure) are highest when including mix of both social media and portfolio website links within the project description (0.990) as compared to only social media links (0.563) or only portfolio website links (0.759). The odds of success when mentioning a company within the author description is 0.665, whereas having a company listed as project creator leads to odds of success of 0.437. Inclusion of an image gives success odds of 0.395 compared to inclusion of a video with odds of 1.357. Location within a digital media cluster leads to odds of success of 0.253.

Looking a project type, odds of success for digital projects are negative (-0.989) compared to positive odds for physical projects (0.234) and for mixed media projects (0.133). The odds for success for mixed media projects is not statistically significant, however.

Table 1

Logistic regression showing the odds of completing a successful using different types of websites

All Projects

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
success									
OnlySocial	0.752***	0.744***	0.714***	0.565**	0.563**	0.563**	0.533**	0.605**	0.568**
	(4.14)	(4.07)	(3.89)	(2.95)	(2.94)	(2.91)	(2.76)	(3.13)	(2.92)
OnlyPortfolio	1.344***	1.244***	1.167***	0.759***	0.755***	0.765***	0.733***	0.786***	0.768***
	(10.56)	(9.66)	(8.97)	(5.49)	(5.45)	(5.47)	(5.27)	(5.64)	(5.47)
MixWebsite	1.720***	1.612***	1.479***	0.997***	0.990***	0.990***	0.963***	1.026***	0.994***
	(12.81)	(11.87)	(10.69)	(6.76)	(6.70)	(6.64)	(6.48)	(6.89)	(6.62)
mention a company~1)		0.734***	0.788***	0.665***	0.649***	0.655***	0.631***	0.675***	0.657***
		(6.27)	(6.67)	(5.53)	(5.39)	(5.38)	(5.22)	(5.58)	(5.38)
individual/compan~1)			0.654***	0.468***	0.437***	0.551***	0.448***	0.448***	0.551***
			(5.19)	(3.62)	(3.37)	(4.14)	(3.45)	(3.45)	(4.14)
Dummy_pic				0.396***	0.395***	0.455***	0.443***	0.345**	0.449***
				(3.53)	(3.52)	(4.00)	(3.83)	(3.01)	(3.84)
Dummy_video				1.381***	1.357***	1.386***	1.355***	1.368***	1.387***
				(10.46)	(10.25)	(10.37)	(10.23)	(10.30)	(10.37)
Cluster					0.253**	0.241*	0.243*	0.262**	0.242*
					(2.64)	(2.49)	(2.54)	(2.74)	(2.50)
DigitalProj						-0.989***			-0.975***
						(-6.09)			(-5.69)
MixMediaProj							0.173		0
							(1.74)		(.)
PhysProj								0.234*	0.0260
								(2.36)	(0.25)
Constant	-1.373***	-1.441***	-1.486***	-2.455***	-2.562***	-2.540***	-2.646***	-2.677***	-2.553***
	(-12.86)	(-13.34)	(-13.65)	(-14.34)	(-14.47)	(-14.23)	(-14.37)	(-14.51)	(-13.69)
Observations	2202	2199	2199	2199	2199	2199	2199	2199	2199

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

The Number of Websites Used

When examining all of the Canadian arts and digital media related projects listed on Kickstarter from 2009 to 2014, we find that the number of websites included within the project description does not have a statistically significant impact on the proportion of funding success. The inclusion of videos and/or images within the project page does significantly impact the funding received by a project. The inclusion of one more video within the project description increases the proportion of funding success by 27.3%. The inclusion of an additional image within the project description increases the proportion of funding success by 3.6%.

Other variables including whether the project creator is a company, whether a company is mentioned within the author description (biography), and whether the project location is located within a digital media cluster were also not shown to have a statistically significant impact on funding success.

Table 2

The impact on the proportion of funding raised on all projects

All Projects

	Model 1	Model 2	Model 3	Model 4
Number ofWebsite	0.0484 (0.83)	0.0419 (0.71)	0.0453 (0.77)	0.0451 (0.76)
videos	0.276*** (3.91)	0.271*** (3.86)	0.273*** (3.88)	0.273*** (3.87)
images	0.0379*** (3.72)	0.0350*** (3.46)	0.0364*** (3.50)	0.0363*** (3.49)
mention a company~1)		0.364 (1.52)	0.355 (1.48)	0.352 (1.47)
individual/compan~1)			-0.157 (-0.60)	-0.161 (-0.61)
Cluster				0.0306 (0.16)
Constant	0.446** (3.07)	0.402** (2.73)	0.411** (2.78)	0.397* (2.33)
Observations	2202	2199	2199	2199

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Physical Projects:

Examining only the "Physical Projects" listed on Kickstarter, the number of videos included within the project page is the only variable that has a statistically significant impact on the proportion of funding success, holding all else constant. Holding all other variables constant, including one more video on a project's page increases the proportion of funding success by 111.2%.

Table 2

The impact on the proportion of funding raised for mixed media projects

Physical Projects

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Number ofWebsite	0.0224	0.0301	0.0293	0.0266	0.0300	0.233
	(0.17)	(0.22)	(0.22)	(0.20)	(0.22)	(1.31)
videos	1.091***	1.102***	1.103***	1.108***	1.100***	1.112***
	(5.73)	(5.78)	(5.78)	(5.76)	(5.75)	(5.83)
images	0.0117	0.0174	0.0167	0.0170	0.0167	0.0163
	(0.57)	(0.82)	(0.78)	(0.79)	(0.77)	(0.76)
mention a company~1)	0.549	0.501	0.496	0.505	0.492	0.498
	(0.97)	(0.88)	(0.87)	(0.89)	(0.86)	(0.88)
individual/compan~1)		-0.599	-0.614	-0.613	-0.615	-0.516
		(-1.03)	(-1.05)	(-1.05)	(-1.05)	(-0.88)
Cluster			0.104	0.110	0.103	0.0858
			(0.27)	(0.28)	(0.27)	(0.22)
OnlyPortfolio				-0.0912		
				(-0.22)		
OnlySocial					-0.114	
					(-0.16)	
MixWebsite						-1.062
						(-1.75)
Constant	0.219	0.247	0.203	0.227	0.214	0.162
	(0.75)	(0.84)	(0.60)	(0.64)	(0.62)	(0.48)
Observations	1009	1009	1009	1009	1009	1009

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

The number of websites, the inclusion of images, having a company listed as the project creator, mentioning a company within the description, location within the cluster and the type of website links (portfolio, social media or a mix of both) do not impact funding success in a statistically way.

Digital Projects

Table 3

The impact on the proportion of funding raised for Digital projects

Digital Projects

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Number ofWebsite	-0.0604	-0.0590	-0.0574	-0.0498	-0.0590	0.0913***
	(-0.53)	(-0.51)	(-0.50)	(-0.43)	(-0.51)	(3.45)
videos	0.0575	0.0583	0.0571	0.0504	0.0591	-0.00114
	(0.45)	(0.45)	(0.44)	(0.38)	(0.45)	(-0.05)
images	0.0287	0.0290	0.0280	0.0279	0.0283	0.0356***
	(1.95)	(1.88)	(1.80)	(1.79)	(1.81)	(7.32)
mention a company~1)	0.981*	0.979*	0.978*	0.969*	0.983*	0.160
	(2.25)	(2.24)	(2.23)	(2.20)	(2.24)	(1.90)
individual/compan~1)		-0.0282	-0.0313	-0.0407	-0.0239	0.378***
		(-0.07)	(-0.08)	(-0.10)	(-0.06)	(3.63)
Cluster			0.170	0.163	0.171	0.0801
			(0.53)	(0.50)	(0.53)	(1.08)
OnlyPortfolio				0.125		
				(0.37)		
OnlySocial					0.130	
					(0.23)	
MixWebsite						-0.157
						(-1.58)
Constant	0.387	0.389	0.312	0.268	0.295	0.350***
	(1.55)	(1.54)	(1.07)	(0.85)	(0.98)	(4.82)
Observations	252	252	252	252	252	938

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

When we observe only "Digital Projects", the number of websites and the number of images included within the project page, as well as having a company listed as the project creator have a statistically significant impact on funding success. Holding all variables constant, inclusion of one more website link increases the proportion of funding success by 9.1%, whereas inclusion

of one more image increases the proportion of funding success by 3.6%. All else constant, if the project creator is a company, the proportion of funding success increases by 37.8%.

The number of videos, mentioning a company within the description, location within a cluster and the type of website links included on a project's page are not shown to have a statistically significant impact on the funding success of a digital project.

Mixed Media Projects

Looking at "Mixed Media Projects only, we find that the variables with a statistically significant impact on a project's funding success are number of website links included within the project page, the number of images included, and whether the project creator is a company.

Holding all variables constant, inclusion of one more website link is shown to increase the proportion of funding success by 9.1%, whereas inclusion of one more image within the project page is shown to increase the proportion of funding success by 3.6%. If the project creator is a company instead of an individual, funding success is increased by 37.8% holding all other variables constant. The number of videos included, mentioning a company within the description and being located within a digital media cluster do not statistically impact funding success.

For mixed media projects, the inclusion of only portfolio website links within the project page significantly increases the proportion of funding success by 22.6%, holding all other variables constant. Including only social media links does not statistically impact funding success, nor does including a mix of both portfolio and social media weblinks.

Table 4

The impact on the proportion of funding raised for mixed media projects

Mix Media Projects

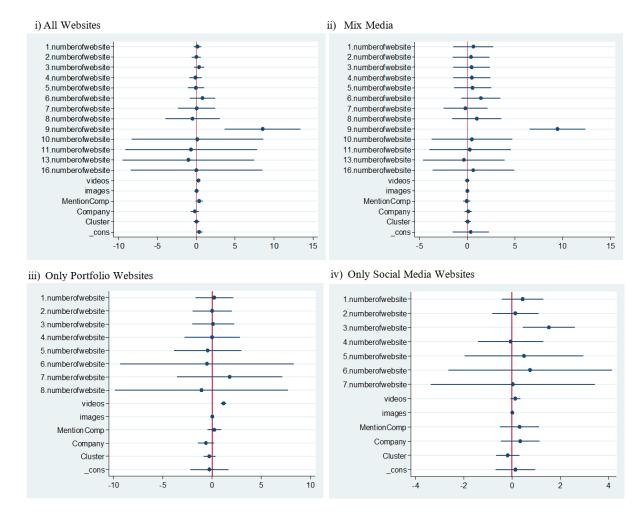|	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Number ofWebsite	0.0744***	0.0664**	0.0665**	0.0794***	0.0661**	0.0913***
	(3.48)	(3.11)	(3.11)	(3.66)	(3.09)	(3.45)
videos	0.000971	-0.00327	-0.00468	-0.000953	-0.00484	-0.00114
	(0.04)	(-0.14)	(-0.20)	(-0.04)	(-0.21)	(-0.05)
images	0.0378***	0.0358***	0.0358***	0.0345***	0.0355***	0.0356***
	(7.78)	(7.35)	(7.36)	(7.10)	(7.29)	(7.32)
mention a company~1)	0.150	0.165*	0.156	0.130	0.151	0.160
	(1.78)	(1.97)	(1.86)	(1.54)	(1.78)	(1.90)
individual/compan~1)		0.371***	0.360***	0.363***	0.357***	0.378***
		(3.60)	(3.47)	(3.52)	(3.44)	(3.63)
Cluster			0.0722	0.0813	0.0709	0.0801
			(0.98)	(1.10)	(0.96)	(1.08)
OnlyPortfolio				0.226**		
				(3.02)		
OnlySocial					-0.0807	
					(-0.69)	
MixWebsite						-0.157
						(-1.58)
Constant	0.426***	0.397***	0.361***	0.245**	0.374***	0.350***
	(6.89)	(6.42)	(4.99)	(3.00)	(5.00)	(4.82)
Observations	938	938	938	938	938	938

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Eliminating all other variables, the proportion of funding success experienced by mixed media and digital projects is 35.0% (statistically significant), whereas success for physical projects is lower at 16.2% (although not a statistically significant value).

Using a Coefficient Plot and looking specifically at the number of website links included on a project's page, we found that having nine links maximizes the proportion of funding success, not taking into account the type of website links that are included.

Graph 1

Coefficient plot showing the likelihood of success using different types of websites

When only social media links are included, having only three website links results in highest proportion of funding success. Conversely, the inclusion of seven website links maximizes funding success when only portfolio website links are included. When a mix of both categories of website links are included (social media and portfolio), having nine website links leads to the highest proportion of funding success.

Discussion of Results

The results from the logistic regression reveal that the odds of running a successful campaign on Kickstarter increases when the entrepreneur uses a website. These results are

significant whether the entrepreneur uses social media to promote their product, creates their own portfolio website or uses a combination of the two types of websites. In this paper, we are interested in determining which type of website provides a positive signal to the crowd.

The Optimal Number of Websites

Entrepreneurs use a number of digital resources to provide sufficient soft information to the crowd in an attempt to gain the necessary funding to launch their project. These resources include videos, photos, detailed explanations about the project and websites which either link to a portfolio website or a social media website related to the project. According to Ahlers et al. (2015), on All-or-Nothing platforms, such as Kickstarter, entrepreneurs face the risk of not receiving any funding. Subsequently, entrepreneurs provide as much information about the project as possible in order to ensure the crowd that they are capable of launching a successful project. Previous literature has established that photos and videos increase the probability of meeting the target funding goal. The results found in this paper, however, indicate that using an external website to provide more information help entrepreneurs reach their goal as well. These findings are conditional on the type of project and the type of websites that the entrepreneur posts on Kickstarter.

To begin with, we found that projects with a physical output do not benefit from using a website or posting photos of the product. In fact, physical products are more likely to reach their funding goal by posting a video instead of using other forms of digital resources. Cumming, Leboeuf and Schwienbacher (2015) state that large non-scalable projects use the AON model to ensure that they can cover their fixed costs, i.e. the costs associated with building a prototype, and producing more products for sale. As a result, project initiators obtain a greater proportion of their funding goal by posting a video which demonstrates how the product works as opposed to posting

a picture of their product. Furthermore, a video which shows proof of working prototype is sufficient evidence for the crowd to donate money. Entrepreneurs do not need to provide links to external websites which demonstrate their skills or provide further detailed information about the product to convince the crowd that they are capable of completing the project. The video provides sufficient evidence of their skills. They gain credibility by showing a working prototype. Consequently, entrepreneurs who create physical products can reach 100% of their funding goal by posting a relevant video.

In contrast, digital projects are scalable therefore entrepreneurs can alter their project, depending on the amount of funds obtained. As a result, digital projects reach their desired goals by using a mixture of both social media and portfolio websites. After analysing all the websites posted on the 2177 Kickstarter projects, we concluded that social media websites are used to update the crowd about the progress made on completing the project. This is because the design of social media websites, such as Facebook and Twitter, facilitate minimal digital resources. In particular, users can post pictures or videos but they cannot, for example, post a copy of the video game they are creating. Subsequently, social media websites are used to post pictures and videos about the progression of the project or to invite the crowd to attend events, such as launch parties, related to the project. On the other hand, portfolio websites are used to provide more information about the product, the entrepreneurs or provide external sources, such as blog articles, which validate the project.

Due to the scalable nature of digital media projects, entrepreneurs need to use a mixture of both portfolio and social media websites to obtain the desired funds. Social media websites provide updates about the project. Based on the progress report, the crowd can decide whether the project is worth their investment. Moreover, portfolio websites provide the crowd with the entrepreneurs'

credentials as well as a body of their work. The crowd uses this as a signal to determine whether the team is capable scaling the project upwards with extra funding or whether the team has maximised their skillset to reach the development stage they are in.

Similarly, projects that have a digital and physical component can obtain 9% of their target funding by using an additional portfolio website. This is because the crowd uses the information about the entrepreneur's' body of work to determine whether they have the skills to build the project. In such cases, the progress is irrelevant as the entrepreneur's project does not require specialising in one skill; they must be good at creating both physical and digital goods. Subsequently, the entrepreneur needs to prove that they have the experiences and skills needed to complete the project. This is only available on portfolio websites.

According to Ordanini, Miceli, Pizzetti, and Parasuraman (2011), the crowd invests in a project when they share a sense of identification with the entrepreneur and/ or the project. Depending on the level of their expertise, investors identify with different aspects of the project. For example, Kim and Viswanathan (2016) discovered that films which rely on hiring famous stars trigger a positive response when the film is targeted at the mass-market and trigger a negative response when the film is targeted to the artistic audience. The crowd has heterogeneous responses to the entrepreneur's signals. As a result, they should provide as much soft information as possible to ensure that the maximum number of investors respond in a positive manner. This means that scalable digital projects should provide detailed updates about their progress using social media websites and information about the team and their relevant experiences using portfolio websites. However, projects that have a physical and digital component need to provide sufficient evidence to the crown using portfolio websites that they posses both skillsets and are therefore capable of completing the project.

Nevertheless, we are interested in determining the optimal number of websites that entrepreneurs should use to meet their financial goals. The results revealed that those entrepreneurs who created three social media websites reaches their goal, the remaining results were not statistically significant. This can be explained by the way information is presented on social media websites. Most of use at least one social media website on a regular basis therefore we are familiar with the layout. As a result, we know where the relevant information is located on a page. According to Rogers, Sharp and Preece (2011), the way information is displayed affects how easy it is for the user to appropriate the relevant information. Investors can gather the relevant information with as little as three social media websites. In contrast, each portfolio website is designed and carefully curated by the entrepreneur. Investors must spend time looking for the relevant information. Rogers, Sharp and Preece (2011) argue that users get distracted and focus on other tasks when finding the relevant information is strenuous task. Users may even close the website therefore using an additional portfolio website does not increase funding by a statistically significant amount.

However, using a mixture of social media and portfolio websites results in obtaining a larger proportion of funding. In particular, we found that a combination of 9 websites always results in a project being overfunded. This is explained by the two memory processes: recognition-based scanning and recall-directed (Rogers, Sharp & Preece, 2011). Investors view the content on external websites in order to gather more information about the content available on the Kickstarter page. Social media websites facilitate recall-directed memory as the investor can search through the lists of information to find the information they desire. They are using memorised information to find out more about the project using a website that they are familiar with to navigate through the information about the project. However, when they fail to find the information, the user sifts

through the portfolio websites. Depending on the layout of the portfolio website, investors can apply both types of memory recall methods. Nevertheless, using a combination of websites reinforces both types and ensures that the user can find the relevant information every time they visit the websites. HCI design principles explain why a combination of social media and portfolio websites result in the entrepreneur raising more than their desired level of funding.

Project Location

Although we found that the clusters within the dataset were consistent with the digital media clusters in Canada, only 50% of the digital projects were located in one of the three major cities. Similarly, 58% of the mixed media projects were located in the digital media cluster. Furthermore, we found that roughly 20% of the projects in each city were film and movie related projects. This is attributed the skills required to create mixed media projects, such as TV shows. The entrepreneur requires a variety of skills to consult and work on the project therefore they are located near the creative class.

Toronto is situated near Waterloo and the Technology Triangle (Cambridge, Kitchener and Guelph). The companies located in these regions do not specialise in digital media but facilitate the artistic activities related to digital media (Nelles, Bramwell & Wolfe, 2005). As a result, Toronto is home to a variety of talent which is desired in mixed media projects. Entrepreneurs are located here to access the creative talent as well as those with digital skills. Similarly, Montreal was a vibrant artistic underground economy with distributional channels that artists can use to access jobs, find talent and learn new skills (Stolarick & Florida, 2006). Even though Vancouver specialises in film and movie production, there is a "whirlwind of activity focused around … new media" (Smith, McCarthy & McCarthy, 2004) as well as a number of institutes with art and design programs. These include the University of British Columbia and Simon Fraser University and

many more (Barnes & Coe, 2010). Subsequently. entrepreneur can find artistic talent as well as workers that poses skills which will help complete the project.

Kickstarter is a platform which connects investors to entrepreneur. The website does not help entrepreneurs hire workers. Creating a new project requires funding as well as human capital therefore those entrepreneurs who are not specialising in a particular skill need access to a diverse talent pool. As a result, entrepreneurs producing a mixed media project are predominantly located in the digital media clusters.

Limitations

Due to the fact that we do not possess actual geographic coordinates related to project location (and because certain projects are virtual/do not have a set location), we were unable to include location, as it relates to a project's distance from a point within a digital media cluster, in our regression model.

Although we have identified the three Canadian digital media clusters in our model, we have not included them in our regression. As mentioned, this is because the small number of significant observations relative to the high number of insignificant observations within our data would lead to a high degree of heteroscedasticity within our model without providing substantial explanatory power. As such, the results have been used to identify Canadian clusters, which in turn have been made into a dummy variable.

It should be noted that many of these projects take place in locales close to or bordering the digital media clusters in our model. For example, a project located in Mississauga, Ontario is very close to the digital media cluster of Toronto but will have been categorized as "outside the cluster". Owing to our lack of more specific coordinates, we are unable to measure the potential spillover effects of being located near a digital media cluster. We hypothesize that the effects of

close proximity to a cluster would lead to increased funding success as compared to projects which are not.

When examining our Kickstarter data, we noted that project location and author location (place of residence) sometimes differ. The location of the author, and its subsequent effects on funding success, has not been taken into account in our model. We believe funding success would be impacted by author location as a result of the project creator's proximity to or distance from a digital media cluster. In addition, different project and author locations may impact credibility and thus funding success.

The Canadian Kickstarter data made available to us covers projects from 2009 to 2014, with later years comprising a greater share of the observations (projects). We have not taken into account the effects that time has had as a variable on the funding success of projects. As Kickstarter has grown in popularity since 2009, the potential number of backers who pledge their funding and the number of projects listed on the crowdfunding site have increased. The impact of these factors has not been accounted for in our model.

In addition, the window for funding varies between projects and is not a variable controlled for in our regression model. A project is only successful if it reaches its fundraising goal by a pre-selected end date. Start and end dates vary; consequently, the time allotted to fundraising through Kickstarter is much longer for certain projects as compared to others.

Projects are also sometimes cancelled by their author before their end date (for either project-specific or fundraising-specific reasons), which may contribute to whether a project is successful or unsuccessful. It follows that the creator's choice to cancel a project may be the reason for a funding goal not being reached and not any of the variables included in our model. Deleted profiles were removed from our data set but cancelled projects were not and were simply

categorized as unsuccessful if they did not reach their target funding amount. This may limit the explanatory power of our model.

Conclusion

Although Kickstarter is an online platform which connects investors to project initiators, we find that the entrepreneurs are predominantly located in the three major digital media clusters in Canada: Toronto, Vancouver and Montreal. However, the projects that are located in the cluster are not dominated by digital media. In fact, 50% of the digital projects as well as 50% of physical projects are located within the cluster. This suggests that Kickstarter alleviates regional restrictions. Entrepreneurs can obtain the necessary funding without relocating to one of the digital media clusters in Canada.

Moreover, we found that entrepreneurs use various digital resources to provide soft information about their projects in an attempt to secure funding from the crowd. In particular, we found that entrepreneurs can increase the odds of running a successful campaign by a factor of 1.7 by using a social media website to provide soft information. However, a portfolio website results in increasing their odds by 2.15 while using a combination of social media and portfolio websites raises their odds by almost 3 factors. Entrepreneurs should utilise external sources in order to provide sufficient information and signals which are received positively by the crowd to raise the required funding to launch their project.

The increase in odds is subject to the type of project that the entrepreneur chooses to build. Entrepreneurs who want to create a physical project increase their odds by a factor of 1.37 of obtaining the desired funds by posting a relevant video instead using a website to convey the same information. This is because the untrained crowd is interested in a working prototype therefore websites which provide extra information, which may be technical, do not increase the chances of

reaching the funding goal. In contrast, entrepreneurs who want to launch a project which has physical and digital components can increase their odds of success by a factor of 0.99 using portfolio websites while those creating digital goods can obtain the same level of success by using a mixture of social media and portfolio websites.

Social media websites provide an avenue for entrepreneurs to update the crowd about their progress while social media websites provide detailed information about the project, the team and display a history of work that the team has created. Subsequently, with respect to scalable digital projects, the crowd uses information about the project's progression as a signal to determine whether the project will be successfully completed. They use portfolio websites to assess the team's skills and learn about the project to decipher whether the entrepreneur is capable of delivering the product. On the other hand, physical projects are not scalable. The crowd expects the entrepreneur to use the funds to cover their fixed costs and build the prototype on display. They do not require information about how the product is built as it is already complete; videos are the best digital resource to convey soft information about physical projects. Lastly, entrepreneurs who are creating projects with a digital and physical component do not specialise in one skill. As a result, the crowd uses information about the team's previous projects on portfolio websites to decide whether they want to invest in the project. Depending on the type of project that the entrepreneur wants to produce, they should pick the type of website that will convey the best information to create a positive signal for the crowd.

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