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The Role of Online Crowdfunding Communities in Funding Cycle Success: Evidence from Kickstarter

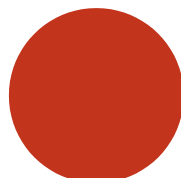
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**The Role of Online Crowdfunding
Communities in Funding Cycle Success:
Evidence from Kickstarter.**

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Abstract

With dropping success rates of crowdfunding platforms like Kickstarter, entrepreneurs need to be able to leverage their promotional skills and their social network ties, from all possible angles. Previous studies have confirmed how both can positively affect funding cycle success. Kickstarter allows for certain interactions to occur among peer members - project creators can post project updates, can write comments and back other creators' projects. The interchangeability of those roles - project creators can be backers and vice-versa - allows for a set of network dynamics such as network visibility, social obligation and reciprocity, to intervene in funding cycle success. This work focus on understanding how the creator's social ties inside the crowdfunding community impact project success and how does its influence change from one project category to the next.

Resumo

A plataforma de *crowdfunding* Kickstarter, tem sofrido um decréscimo na taxa de sucesso dos seus empreendedores, e por isso torna-se necessário conseguir inverter esta tendência. Para serem bem sucedidos os novos empreendedores necessitam de alavancar os seus conhecimentos promocionais e a sua rede de contactos. Estudos anteriores já confirmaram o efeito positivo que ambos conseguem ter no sucesso de uma campanha. O Kickstarter permite que algum tipo de interação, entre os seus membros, aconteça dentro da plataforma – os criadores de novos projetos podem publicar atualizações e comentários no seu próprio projeto, financiar projetos de outros criadores, bem como publicar comentários em projetos de outros criadores. Esta possibilidade de transitar entre papéis – os criadores de projetos podem ser financiadores e vice-versa – permite que uma série de dinâmicas de rede ocorram, tais como a visibilidade na rede, a obrigação social e a reciprocidade, e que estas tenham um efeito positivo no sucesso final de uma campanha. Este trabalho foca-se em perceber como é que essa rede de contactos criada pelo empreendedor dentro do Kickstarter pode influenciar o sucesso de uma campanha e como é que essa influência varia dentro das diferentes categorias existentes na plataforma.

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1. Introduction

Crowdfunding platforms are a great funding opportunity for all entrepreneurs. Thanks to the development of digital technologies and the difficulties in attracting funding from traditional sources of financial backing, the sourcing of financial goods through the Internet has seen strong growth in recent years (Agrawal, Catalini, & Goldfarb, 2015; Massolution, 2015; Ordanini, Miceli, Pizzetti, & Parasuraman, 2011; Schvienbacher & Larralde, 2010). Kickstarter¹, one of the largest crowdfunding platforms, has helped fund over 99.521 thousand projects in the last 6 years, across 15 different project categories². Kickstarter alongside other reward-based crowdfunding platforms, like Indiegogo and RocketHub, have shown the effectiveness of funding projects from millions of individual users, without the need of traditional sources of financial backing (Chung & Lee, 2015). In spite of the platform's rapid growth - number of projects and funding goal amounts - the success rate of projects has been decreasing: 41% in 2011 (Gerber & Hui, 2013) to 36.32% in 2015².

To have a successful funding cycle, entrepreneurs need to leverage their promotional skills and their network actions. Previous crowdfunding research has shown how the entrepreneur's social network ties may positively affect their ability to reach the desired funding goal (Agrawal, Catalini, & Goldfarb, 2011; Mollick, 2014; Zheng, Li, Wu, & Xu, 2014). Kickstarter lets entrepreneurs engage with an audience of possible backers - project creators can post project updates, can write comments and back other creators' projects. Those interchangeable roles - project creators can be backers and vice-versa - create sub communities of users where network dynamics such as network visibility, social obligation and reciprocity play a vital role in funding cycle

¹ www.kickstarter.com

² www.kickstarter.com/help/stats

success (Gerber & Hui, 2013; Posegga, Zylka, & Fischbach, 2015; Zvilichovsky, Inbar, & Barzilay, 2013). Network actions such as inspecting, funding and giving feedback increase the user's social capital within the platform, which in return boost the chances of success (Colombo, Franzoni, & Rossi-Lamastra, 2015). Moreover, some research suggests that crowdfunding platforms are becoming *loci* of social interaction in which users are embedded in social relationships with other peer members with similar interests, triggering effects of shared meaning and social identity among users of the same project category (Colombo et al., 2015; Hui, Greenberg, & Gerber, 2014; Zvilichovsky et al., 2013).

Hence, the leading question of this dissertation derives: can the creator's built network inside the crowdfunding platform impact project performance, and how does its influence change from one project category to the next? Having these two questions as a starting point, we can ask other questions: is there any relation between successful creators and their backing actions, creation actions and comment and update actions? Do least successful project categories see their creators have fewer records on such network actions? Do successful creators from least successful project categories have a similar behavior to the one recorded for successful creators from successful categories? To answer those questions, we need to compare behavior data of creators across all project categories (Art, Comics, Crafts, Dance, Design, Fashion, Film & Video, Food, Games, Journalism, Music, Photography, Publishing, Technology, Theater) and analyze the varying importance of community development within those different categories. Even though previous studies have confirmed the value of internal social capital within crowdfunding communities, they have not analyzed its influence across multiple project categories. More than a mere academic exercise, this knowledge might help creators adjust their network actions accordingly in order to better position themselves for success.

To collect data on network actions performed by project creators, we need to collect information on a large number of Kickstarter users. To do so, we implemented a scrapping software that collected information on 138.550 thousand successful and unsuccessful projects and 85.574 successful and unsuccessful project creators. Statistical analysis of the data will allow us to link the track record of creators in a specific category – number of backing actions, creation actions and number of updates

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and comments - to the number of successes in that same category. It is expected that the type of network actions allowed inside Kickstarter will differ from one project category to the next. Finally, this work finishes by exposing a set of interviews to a selection of creators, chosen according to their characteristics and category, so we can complement the quantitative analysis with insights from the creators themselves.

This work is structured as follows: we will begin by overviewing the literature review, defining crowdfunding, understanding why there is a community in crowdfunding, and what has been already researched on network dynamics of the community and project success. Then in chapter 3, the methodology is discussed, focusing on data collection, the sample selection, and the quantitative and qualitative analysis. From there, we present, in chapter 4, the quantitative analysis of data and, in chapter 5, the information obtained from the interviews. We end the dissertation with final conclusions and remarks on recommendations of future work.

2. Literature review

2.1 Crowdfunding – a definition

Crowdfunding platforms have been successful in connecting million of individual backers to a wide variety of project creators, funding the development of new products and services across many fields. Belleflamme et al. (2011) defined crowdfunding as “an open call, mostly through the Internet, for the provision of financial resources either in form of donation or in exchange for the future product or some form of reward and/or voting rights”.

Crowdfunding emerged from a blend of two separate concepts, crowdsourcing and microfinance, but its uniqueness created its own category in fundraising (Mollick, 2014). Crowdsourcing, the sourcing of the crowd to obtain ideas, feedback and solutions, in order to develop new business activities, was first coined by Jeff Howe and Mark Robinson in the June 2006 issue of Wired Magazine (Howe, 2006). While in crowdsourcing, the crowd works collaboratively to achieve a common goal, in crowdfunding the crowd collectively grants financial resources, through the web, to develop a new product or service (Posegga et al., 2015). Thus, crowdfunding can be seen as a virtualization of the fundraising process (Zvilichovsky et al., 2013) and as a sub-type of crowdsourcing in which the common goal is monetary. In addition to raising money, Belleflamme et al. (2011) suggest that crowdfunding also helps companies test, promote and market their products. In this sense, companies can use crowdfunding as a promotion mechanism, or as a mean to support mass customization and user-based innovation, or as a way to gain better knowledge of consumer’s tastes.

Equity purchase, loan, donation and pre-ordering or reward-based are different methods of raising money on crowdfunding platforms (Mollick, 2014). Kickstarter, one of the premier platforms, follows the latter method, applying the “all or nothing” business model, where a minimum financing goal needs to be achieved during a limited timeframe. If the goal is reached the amount pledged is transferred to the project creator; if not, all funds are returned to project backers³.

Aside from offering a dedicated project page and access to a pool of individual backers, Kickstarter provides analytics tools, and project campaign tutorials to project creators. In order to launch an online crowdfunding campaign, Hui et al. (2014) suggest that project creators are involved in five types of work:

- **Prepare** – Preparing campaign materials involves creating a project page. Project pages generally include several recommended and required fields, such as title, description of the project, images, video, planned use of funds, funding goal, campaign duration, reward types and structure. Creators submit all the data and if the project is approved, a project page is created where users can choose to donate.
- **Test** – Creators ask for feedback on their campaign materials and can engage the audience in deciding the creative direction of the project.
- **Publicize** – Publicizing involves promoting the project and ask for support from potential backers. Creators can reach out to them through a variety of means: Kickstarter itself, email, social media, digital news outlets, blogs, as well as any offline network connections and in-person requests.
- **Follow Through** – Once the campaign is finished, successful creators need to follow through with the project and deliver the promised rewards. Reward types range, from the actual product, to creative collaborations involving backers (e.g., backers casted as extras on a film project), to creative experiences (e.g., a private concerts), to creative mementos (e.g., custom smartphone covers, t-shirts, “thank-you” emails, backer’s name in the closing credits of a movie project).

³ www.kickstarter.com/help/faq/Kickstarter%20Basics

- **Reciprocate** – Hui et al. (2014) suggest that many creators contribute back to the community by giving feedback and by funding other creators.

Kickstarter has helped fund 99.521 thousand projects over the past 6 years⁴, by raising 1.89 billion dollars, across 15 different categories, including art, comics, crafts, dance, design, fashion, film & video, food, games, journalism, music, photography, publishing, technology and theater. Amounts raised range from less than 1 thousand to over 20 million dollars^{Error! Bookmark not defined.}. When project creators are successful, they are required to pay a platform usage fee of 5% of the funds raised, plus a payment processing fee of 3% plus 0.20 dollars per pledge for pledges over 10 dollars, and 5% plus 0.05 dollars per pledge for pledges under 10 dollars⁵.

2.2 Community behavior in crowdfunding

Similar to other online communities, crowdfunding platforms are a “virtual place where people come together with others to converse, exchange information or other resources, learn, play, or just be with each other” (Kraut et al., 2012, p. 1). Gerber, Hui, & Kuo (2012) suggest that the same user can take part in three distinct roles within the crowdfunding community: observer, funder and creator. While the user initiates their role in one of the three categories, evidence shows that users transition between roles. A user may start as an observer, after a few weeks of gathering inspiration may decide to launch his or hers project. After successfully funding his or hers vision, the user may choose to reciprocate support. For example, a female book publisher from San Francisco successfully funds her cookbook with the help of 405 backers and 40.805 thousand dollars on October 2015⁶. Before launching her project, she had decided to back other projects within the community, expecting to be backed in return⁷. After a successful campaign, she chose to fund a few other creators that were also backers on her project⁸.

⁴ www.kickstarter.com/help/stats

⁵ www.kickstarter.com/projects/fees

⁶ www.kickstarter.com/projects/1674166642/feed-your-people-big-batch-recipes-by-big-hearted

⁷ www.kickstarter.com/profile/1674166642

⁸ www.kickstarter.com/profile/1374291900

According to Kickstarter statistics, 31% of all backers are repeat backers and 12% of all Kickstarter creators have launched more than one project, raising nearly a third of all money pledged on Kickstarter - 511 million dollars⁹. Moreover, research findings by Zvilichovsky et al., (2013) confirm that many backers back multiple projects – 1.88 on average - and backers who are also project creators are 2.5 times more active on site - backing 4.87 projects on average. These results suggest that a significant number of crowdfunding users can be considered active community participants and have shown true commitment to other peer members.

Table 1: Table of crowdfunding work throughout the work process [extracted from (Hui et al., 2014)].

<i>Crowdfunding Work</i>	<i>Role of Community</i>
Prepare	Provide example projects as models Provide general advice blogs Give one-on-one advice Offer specialized skill expertise
Test	Give feedback on campaign materials Provide opinion on design direction
Publicize	Spread the word Build an audience
Follow Through	Provide manufacturing or shipping support Offer specialized skill expertise
Reciprocate	Provide advice Provide financial resources

Hui et al. (2014) identified community tasks in every stage of the work process of a crowdfunding campaign (see 2.1 for definitions of the five types of work processes involved in a crowdfunding campaign), according to Table 1. The maintenance and growth of every community depends on the participation and contributions of its members in performing community tasks (Kraut et al., 2012). So, what drives

⁹ www.kickstarter.com/blog/by-the-numbers-when-creators-return-to-kickstarter

commitment in crowdfunding? Previous research has strived to understand what motivates crowdfunding users to actively engage in the community. A qualitative study on the motivations to crowdfund of creators and backers shows that they use crowdfunding not just with monetary rewards in mind but to establish connections, seek validation from peer members, replicate successful campaigns of others and expand awareness of their work. On the other hand, backers want to support and encourage creators and causes, but also engage and contribute back to the creative community (Gerber & Hui, 2013). Other studies on crowdfunding participants have confirmed that social participation is a driving factor behind crowdfunding (Ordanini et al., 2011). Creators and backers want to be part of a community of like-minded individuals where they can learn and share knowledge and business ideas (Gerber et al., 2012).

Additionally, Belleflamme et al., (2011) stress the need that project creators have in creating a community around their products in order to make crowdfunding a viable alternative to traditional means of financial backing. Backers need to feel that they are part of a community of privileged consumers that enjoy community benefits. Therefore, trust-building by the project creator through constant project updates or through any other means of giving feedback on project status - such as responding to users questions or comments - is key in reaching funding cycle success.

2.3 Network dynamics as success factors

Kickstarter users can play a dual role in crowdfunding, be project creators and/or project backers. A user's public profile page includes alongside personal information, detailed records of creation and backing histories⁷. By allowing users to interact in such a way and making it very visible to one another, Kickstarter creates a sub community of *backers-owners*, that exhibit distinct network dynamics and increased chances of reaching funding cycle success (Zvilichovsky et al., 2013).

Several elements have been positively linked to the success of a campaign. Quality of project presentation through the use of video, appropriate text content and the frequent publication of project updates, have all been deemed important in determining the success of a crowdfunding project (Cordova, Dolci, & Gianfrate, 2015; Kuppuswamy & Bayus, 2015; Mitra & Gilbert, 2014; Mollick, 2014). Also, other's

contributions made visible by the project page extend pure project information during a crowdfunding campaign, influencing new visitors to donate (Kuppuswamy & Bayus, 2015). Offline personal social ties, number of connections on social media and promotion on social networks during a live campaign also help determine whether creators reach their goals (Lu, Xie, Kong, & Yu, 2014; Mollick, 2014; Zheng et al., 2014). As mentioned earlier, another crucial factors are the several network dynamics at play inside the Kickstarter community. Research has shown the importance of reinforcing network dynamics of sub-communities of users inside other online social networks. However, such interactions between members of an online social crowdfunding platform like Kickstarter, may directly generate monetary rewards (Colombo et al., 2015). Being a contributing member, with previous associated backing or any other community actions can increase the probability of success and can be traced back to several network dynamics such as experience, reciprocity, visibility or network status and social identity (Colombo et al., 2015; Posegga et al., 2015; Zheng et al., 2014; Zvilichovsky et al., 2013).

2.3.1 Learning by doing

Entrepreneurs with hands-on experience have increased chances of raising venture capital. Venture capitalists believe that previous experience as founders is the best indicator of future venture performance by entrepreneurs (Zhang, 2009). Kickstarter stats suggest that creators, who return to the platform, after funding a project, nearly double their funding success rate when compared to the site average⁹. Table 2 shows how funding success rates increase with each new successful project. In this sense, having hands-on experience in crowdfunding also helps project creators secure the funds needed. Chung & Lee (2015) also have confirmed that users who are more experienced and familiar with Kickstarter have higher chances of succeeding.

One of the motivations to crowdfund is to acquire new fundraising skills and to replicate successful experiences of others. To launch a project campaign, creators, need to have or gain several skills, such as marketing, communication, management, risk taking, and financial planning. To effectively communicate their project, inexperienced creators need to learn how to best frame their work according to their targeted audience, using language, video and photography. The community of experienced project creators

may perform several community tasks - provide example projects as models, provide general advice blogs, give one-on-one advice, offer specialized skill expertise (Hui et al., 2014) - in order to help the inexperienced creators complete their project campaign materials.

Table 2: Table of success rates after first successfully funded project [extracted from [(Gallagher & Salfen, 2015)].

<i>Previous successfully funded projects</i>	<i>Success rate for next project</i>
1	73%
2	80%
3	87%
4	87%
5	91%

Hence, crowdfunding's collaborative nature connects novice creators to more experienced ones allowing for an informal learning process to happen (Gerber & Hui, 2013).

Another way to learn the ins and outs of crowdfunding platforms, and therefore better position oneself for success, is to gain experience through funding and observing platform actions by other experienced project creators. Backing other projects, grants access to information, unavailable to non-backing users. Project backers can monitor project progress, get notified about new project updates, and post comments. Inexperienced project creators may use those project privileges as backers to learn from other's strategies and better execute their project campaigns, increasing their ability to reach the desired funding goal (Posegga et al., 2015).

2.3.2 Reciprocity

Findings by Zvilichovsky et al. (2013) show that having a history of project creation alone does not increase the likelihood of reaching success. Their findings suggest that when looking at project creators with multiple successful projects, their backing actions are the dominant factor in increasing chances of success. When project creator A backs project creator B, it develops an expectation that project creator B will

reciprocate the backing action somewhere in the future. This creates a sense of reciprocity or social obligation between the two individuals inside the community (Colombo et al., 2015; Gerber & Hui, 2013; Mitra & Gilbert, 2014; Posegga et al., 2015; Zheng et al., 2014; Zvilichovsky et al., 2013).

Obligation implies a commitment or perceived duty by an individual to engage in future actions in response to actions by another individual (Janine Nahapiet, 1998). Norms of reciprocity that can influence knowledge sharing and financial capital exchange have been documented in other online communities (Wasko & Faraj, 2005). Members of a crowdfunding community may feel obliged to help one another by providing funds because they are grateful to have been backed before or because they expect to need future support (Colombo et al., 2015; Gerber & Hui, 2013).

Previous crowdfunding studies have found that the obligation to fund other entrepreneurs plays an important role in funding performance (Colombo et al., 2015; Mitra & Gilbert, 2014; Posegga et al., 2015; Zheng et al., 2014; Zvilichovsky et al., 2013). Zvilichovsky et al. (2013) have confirmed the following: “the proportion of project backers which have been backed by the owner out of the total project backers is increasing in the number of owner’s backing actions”. Even though all studies stress the importance of reciprocity in reaching funding cycle success, Colombo et al. (2015) results go even further and suggest that their expected impact is even stronger than that of social obligation mediated by social networks, or by family and friends .

2.3.3 Visibility or network status

A creator can build and maintain an audience of backers by funding projects of others. From a reciprocity perspective, backing can generate strong ties and therefore increase the social capital of the creator through a sense of social obligation, that urges backed creators to reciprocate financial support in the future. On the other hand, backing can develop a creator’s visibility in the community and therefore increase the creator’s credibility (Zheng et al., 2014).

An important factor to reciprocity linked to network status is the creator reciprocating behavior. Kickstarter public profile page displays the user’s creation and backing histories, allowing the creator to establish a reputation of a giver within the

community. In this respect, potential backers can know whether the creator seeking support has been generous to others in the past, and therefore be more willing to donate and therefore augment the creator's status and honor in the platform (Colombo et al., 2015; Zheng et al., 2014). On the other hand, project backers act like consumers and invest in products or services. Hence, to diminish risk, backers may prefer to invest in products or services by a project creator with more publicly available information and a higher network credibility. In crowdfunding, high credibility means project creators are more popular hence receive more support. The higher the popularity and visibility of the project and project creator the more chances it has in attracting more potential backers and larger funding amounts (Posegga et al., 2015).

2.3.4 Social identity

Social identity is defined as “traits, characteristics and goals linked to a social role or social group that the person was, is, or may become a member of,” (Oyserman, 2009). Engaging in crowdfunding enables project creators and backers to identify with a group of people with shared interests. By providing users with a sense of community, crowdfunding fulfills the basic human need for social affiliation. The more connected members are, through shared interests, the larger is their will to connect and help one another (Gerber & Hui, 2013). Like brand community consumers, crowdfunding members who are deeply involved in a project campaign, can develop “a common understanding of a shared identity” and actively engage in community tasks such as product development and feedback, learning experience sharing and joint consumption (Ordanini et al., 2011). Additionally, identity shapes people's actions and why they give. Giving patterns are consistent with one's identity values, meaning people are more prone to donate to projects or causes they feel the most connected to (Aaker & Akutsu, 2009).

Moreover, previous literature has proven that a detailed narrative of the project to which project backers can relate to is an effective way to attract backers to the project and therefore increase chances of success (Zheng et al., 2014). To involve backers in their projects, project creators need to use a variety of communication channels and technologies on and off crowdfunding platforms. On Kickstarter, creators use text,

image or videos to describe their work on dedicated project campaign pages. They can also provide additional information through project updates, replies to backers' comments and direct messages. Creators can also reach out to possible backers through social media websites, dedicated blogs and forums and instant messaging tools. Aside from helping creators advertise the project, sharing their story through that variety of means can help build their audience of backers, with whom they may share, common interests. Such shared meaning increases the backer's likelihood of providing funds, therefore it increases the project's chances of succeeding (Lambert & Schwienbacher, 2010).

2.3.5 Creator's personal attributes: location and network size

In recent years several authors have studied geography and its advantages and constraints in relation to seed funding investment (Agrawal et al., 2011; Cordova et al., 2015; Mollick, 2014; Posegga et al., 2015; Zheng et al., 2014). Research and its findings are mainly divided in two different groups: the characteristics of the location where the entrepreneur develops his project and the constraints between location of both founders and funders.

Traditionally, success of entrepreneurial based business ventures is related to several attributes of the place where the promoter chooses to set up the project, such as: proximity to VC, industrial clustering and startup environment (Feldman, 2001; Owen-Smith & Powell, 2004). Another effect related to geography and location of founders is the creativity of the area measured in concentration of creative individuals and projects. Mollick, (2014) suggests that the greater the creativity of a location the higher the chances of crowdfunding success. The second salient approach is that distance between funders and founders is irrelevant in crowdfunding. Online crowdfunding platforms relax geography constraints meaning that most projects solely depend on the donations of social connections such as family and friends (Agrawal et al., 2011; Kuppuswamy & Bayus, 2015). These donations are important to other potential funders at the beginning of a campaign because they eliminate the lack of information in investment (Agrawal et al., 2011). And that's why the other important aspect in the literature related to crowdfunding success and the creator's personal attributes, is the size of social network

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of the entrepreneur. Several authors have confirmed that donations by family and friends in the early stages of a crowdfunding campaign are crucial to the success of a project (Lu et al., 2014). Additionally several studies have linked the size of personal social contacts of creators to funding cycle success on Kickstarter. Users on the platform can link their personal Facebook accounts to his or her profile. And as such some studies have compared the number of friends of creators to their success rates. All have confirmed that to a higher number of connections equals higher chances of reaching success on Kickstarter (Beier & Wagner, 2014; Chung & Lee, 2015; Mitra & Gilbert, 2014; Mollick, 2014).

3. Methodology

The work being developed will rely on both quantitative and qualitative analysis. Since the objective is to analyze whether creator network dynamics inside Kickstarter may impact project performance and how such impact may vary from one project category to the next, first we must collect as much data as the public API of Kickstarter allows on projects and their creators. Once the data is collected, we will select which projects to analyze, excluding all outliers from the sample, in order not to overshadow results with other dynamic forces specific of those projects when evaluating population trends. Third, a statistical analysis of project and creator data will try to determine if high performing categories, with a higher number of successful creators, show in any way behaviors inside the community related to the network dynamics of learning by doing, reciprocity, visibility or network status and social identity. Finally, we select six high performing creators, with more than one successfully launched project, across six different categories and analyze whether they think their behavior inside the community is related to the four studied network dynamics and if it has affected the success of their projects. Detailed insight into each phase of the methodology of this work will be presented below.

3.1 Quantitative analysis

To imply whether successful projects are in any way connected to how the project creator behaves inside the crowdfunding community by donating money to other creators or having any other network activities, connected to the overviewed network dynamics it is necessary not only to analyze how successful projects differ from

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unsuccessful projects across all Kickstarter categories but also how creators from more successful categories behave differently from creators from least successful categories in general and on average.

Since the goal of this work is to understand user activity patterns inside Kickstarter, in order for the quantitative analysis to be representative it is required to include a large number of observations. To do so, we designed a recursive algorithm composed by multiple steps, to discover and gather information on projects and project creators from Kickstarter since its inception. The first step used the Kickstarter's search engine querying projects by sub-category. After collecting the first batch of projects, limited by the Kickstarter's API pagination restrictions, we started to crawl creators, based on their creator ID, using Kickstarter API endpoints. Because not all variables were available on the JSON provided by the API, it was necessary to use a custom scrapper to get all the information needed from each user profile page from Kickstarter. Some creators had more created projects than the projects fetched initially, so it was necessary to recursively get new projects from the API and all its missing details using the scrapper.

We collected information on projects between December 31, 2015 and March 26, 2016, and gathered data on 138,550 projects and 85,574 unique project creators. To better understand how the several network dynamics affect project success, we only collected data on projects that had already finished. To avoid any selection bias, and to prevent outlier projects from creating a skew when evaluating population results, we removed projects, with a goal lower than \$100, and a number of backers lower than two, and higher than a 10,000.

Because we were interested in analyzing creator behavior, the data extracted by the algorithm was divided into two categories: project data and creator data.

The following variables were collected:

- **Project Data** – specific attributes of each project: *project creator id, project creator profile, funding goal, funding received, funding duration, number of backers, launch date, location, category, the use of video, number of reward levels and restrictions of number of backers per reward level, number of backers, number of updates, number of comments*;
- **Creator Data** – attributes related to creator's activity on Kickstarter;

Personal information – specific attributes of a project creator: *project creator id, project creator profile, location, date of account creation, number of Facebook friends;*

- **Creation History** – detailed information of the creator’s previous creating actions: *hadCreated, number of created projects, hadCreatedAndSucceeded, number of created and successful projects, hadCreatedAndNeverSucceeded, category or categories of created projects;*
- **Backing History** – detailed information of the creator’s backing actions to projects by other creators: *hadBacked, number of backed projects, category of backed projects;*
- **Network Activity** – actions performed by the project creator inside Kickstarter such as: *number of updates to projects, number of comments;*

By unsuccessful creators, we mean creators, which have yet to create a successful project on Kickstarter – variable *hadCreatedandNeverSucceeded* is equal to True. Past studies have linked higher success rates to certain creator attributes. By engaging in a new task, a creator will potentially accumulate new information and knowledge. Therefore a success of a creator may be linked to his previous experiences on the platform, meaning that he may have learned how to be successful on Kickstarter by launching one or more project campaigns and therefore increase his or her chances of succeeding in the future. We may be able to infer that a creator with previous creation history may be more successful than other creators at reaching his or hers funding goal, or that categories that have a higher number of successful creators may see higher percentages of repeat project creators. But it could be the case that learning might not be the sole determinant factor in funding cycle success. Creators with a successful track record inside the network, may be perceived by potential backers and creators as a highly credible user. Such increase in network visibility and creator’s status may signify higher chances of success. As described earlier creators can also be backers, which can generate dynamics of reciprocity between project creators - a project creator may choose to repay a backing action of a creator to his or hers project. Previous studies have also stated that social identity between community members on Kickstarter or

other communities can also generate monetary benefits, meaning that specific project creators may wish to back one another on the basis of common community identity values. Backing history of creators between creators of the same category and creators of other categories may also mean increased chances of success.

3.2 Qualitative analysis

As we want to understand whether community behaviors can be in any way tied to project performance, and how its impact can vary between project categories, an interview will be conducted on successful project creators from Kickstarter. Qualitative analysis such as structured interviews are frequently used in the social sciences, so researchers can better perceive social and cultural phenomena (Myers, 1997).

Yin, (1981a, 1981b, 1983, 1989, 1993) and others (e.g. (Eisenhardt, 1989, 1991; Ragin & Becker 1992; Feagin, Orum, & Sjoberg, 1991; Stake, 1995) define how case study methods can be effectively used as an empirical tool. Case studies are appropriated for the “how” and “why” questions, complementing the “who”, “what” and “where” extracted from quantitative analysis. Eisenhardt, (1989) argues that propositions can be developed during data collection, rather than prior to it, with the purpose of obtaining a rich understanding of the cases in all their complexity. The general idea is to allow cases to speak for themselves (Harper, 1992; Stake, 1995). According to Eisenhardt (1989), we limit the number of cases to the point where the incremental contribution of extra cases is only marginal. We end up with a set of six semi-structured interviews to creators with more than one successful project launched. The selection will include three successful creators from three of the most successful categories on Kickstarter. Additionally three creators from three underperforming categories will also be selected based on their high performing behavior inside a category that has a higher ratio of unsuccessful creators *versus* successful creators when compared to other categories. Choosing to interview successful creators from least successful categories that also show different network activity will help us understand whether underperforming categories should see more creators adopt such behaviors or not in order to reach funding cycle success.

The interview questions of the semi-structured interview are available in the appendix, and all the interviews were conducted either via Kickstarter message, or via email, or via social media networks such as Facebook and Twitter.

4. Quantitative analysis

The final dataset has a total number of 102,839 projects and 60,753 project creators. Projects on our sample are dated between April 24, 2009, the year of Kickstarter's inception, and January 6, 2016. In this chapter a detailed overview of our sample will be given, resorting to statistical instruments. First, project data will be analyzed. We will compare variable differences between successful and unsuccessful projects of each project category. The second step will be to evaluate whether any of the collected creator variables are connected to project success. Finally, a comparison of creation and backing histories and network activity between least successful project categories and more successful project categories will be rendered.

4.1 Project data

Figure 1 gives us an overview of the distribution of projects throughout all fifteen project categories (Art, Comics, Crafts, Design, Fashion, Film & Video, Food, Games, Journalism, Music, Photography, Publishing, Technology and Theater). Clearly, the two most popular categories are Music and Film & Video, with a total of 38.8% off all projects on our sample. Music, the largest category on Kickstarter, features 20,301 projects on our sample (19.7% of all projects). Film & Video the second largest category, features 19,575 projects (19.0% of all projects). The third largest category is Publishing with 13,061 projects and a percentage of 12.7%. The three smallest categories are Journalism and Dance, both at 0.7% of all projects and Crafts at 1.2%. Figure 1 also tells us that the three categories with the highest ratio of successful

projects *versus* unsuccessful projects are Design, 80.0% of all Design projects are successful projects, Theater (73.7%) and Music (73.6%). On the other hand the three

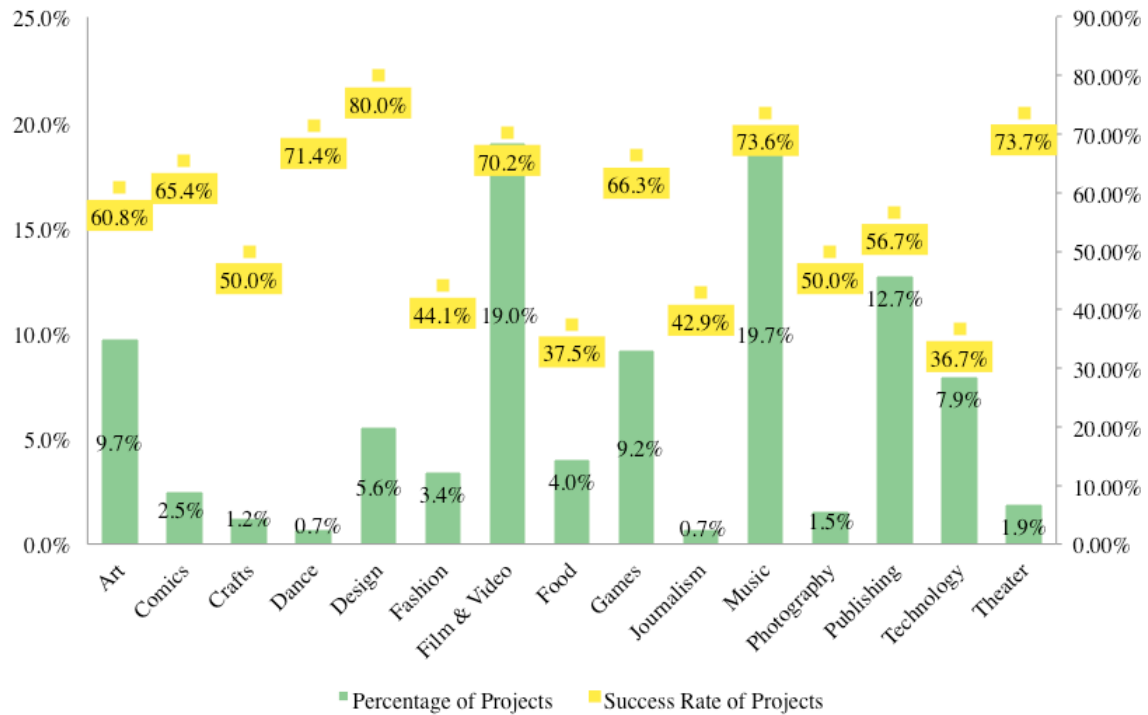


Figure 1: Distribution of projects per category

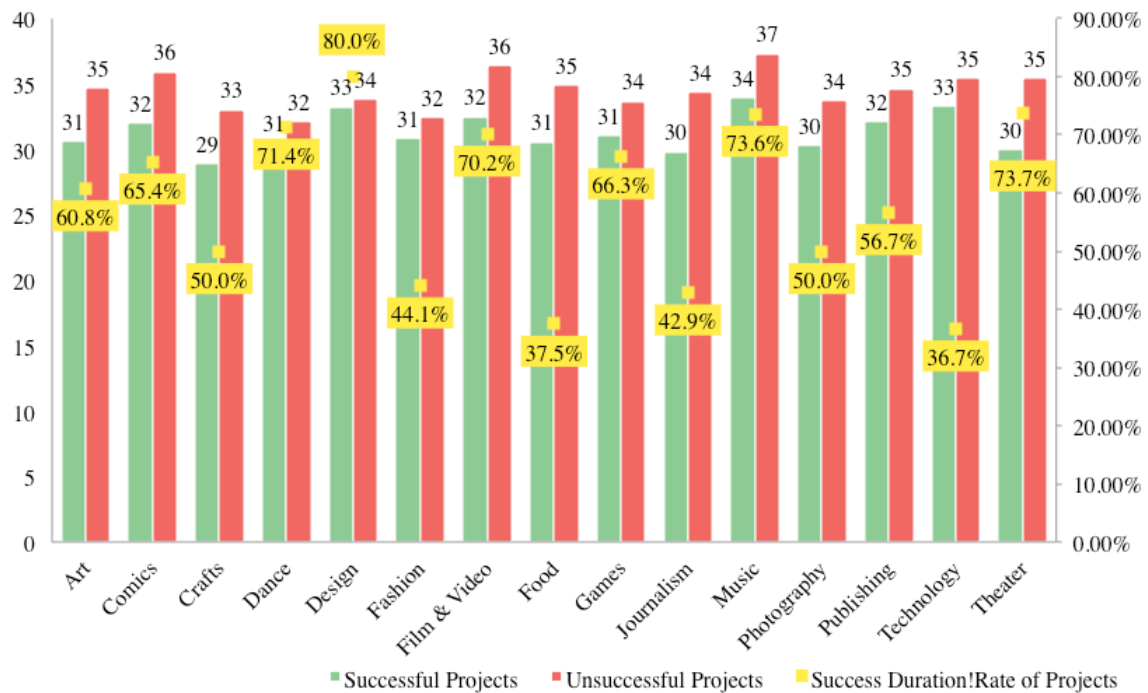


Figure 2: Average funding period per category

Quantitative analysis

categories with the lowest success rates are: Technology (30.7%), Food (37.5%) and Journalism (42.86%). Journalism is one of the smallest categories on Kickstarter, with just 749 projects on our sample at a percentage of 0.7% when compared to the total number of projects in all fifteen categories. Technology and Food are both medium-to-small categories at 7.9% and 4.0% respectively.

The average duration of the funding campaign varies slightly from one project category to the next, according to Figure 2. Unsuccessful projects have a higher number of days on average, being the highest 37 days for Music. Collectively and on average unsuccessful projects on Kickstarter had a duration of 35 days. The mean value for the duration of successful projects across all project categories is slightly lower: 31 days.

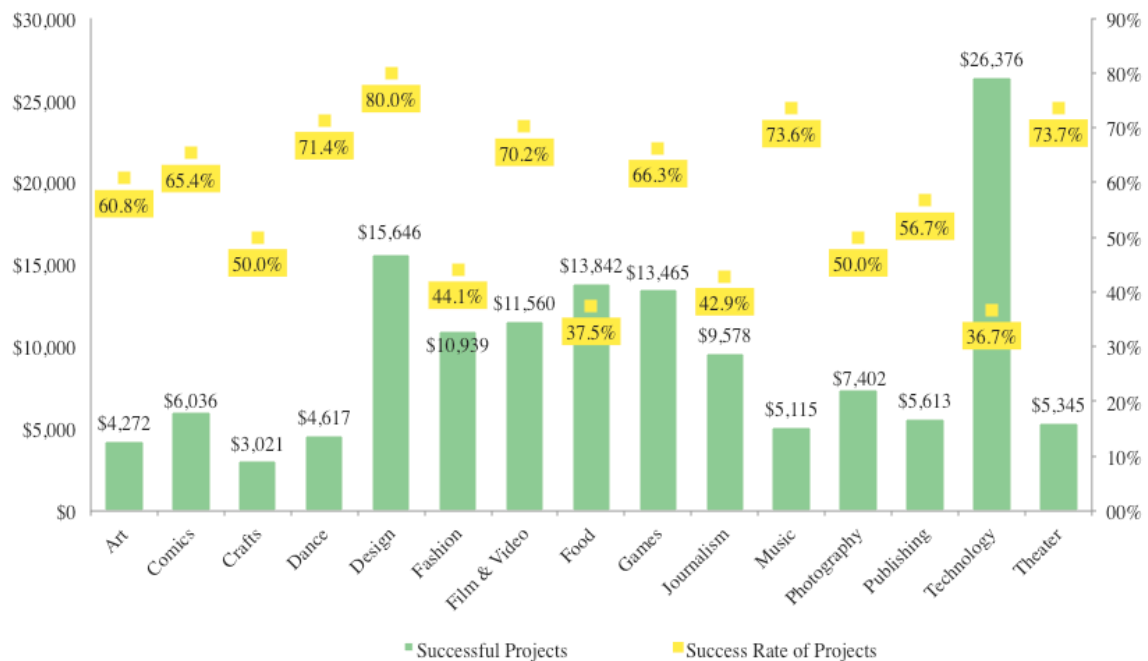


Figure 3: Average funding goal of successful projects per category

Figures 3 and 4 show us the average money requested by projects creators of successful and unsuccessful creators across all project categories. Design (\$101,028), Technology (\$97,113) and Film & Video (\$79,900) are the three categories with the highest funding goal averages for unsuccessful projects. Interestingly enough, all three categories may actually require higher funding goals in order to develop a new project or product, solely because of their nature, meaning that to develop projects within those categories may be more budget consuming, when compared to other more budget-friendly categories. On the other hand, Technology and Design also have two of the

highest averages for successful projects, \$26,376 and \$15,646 respectively, which may confirm our theory, for a creator to launch a new product or service on those categories may require more funding.

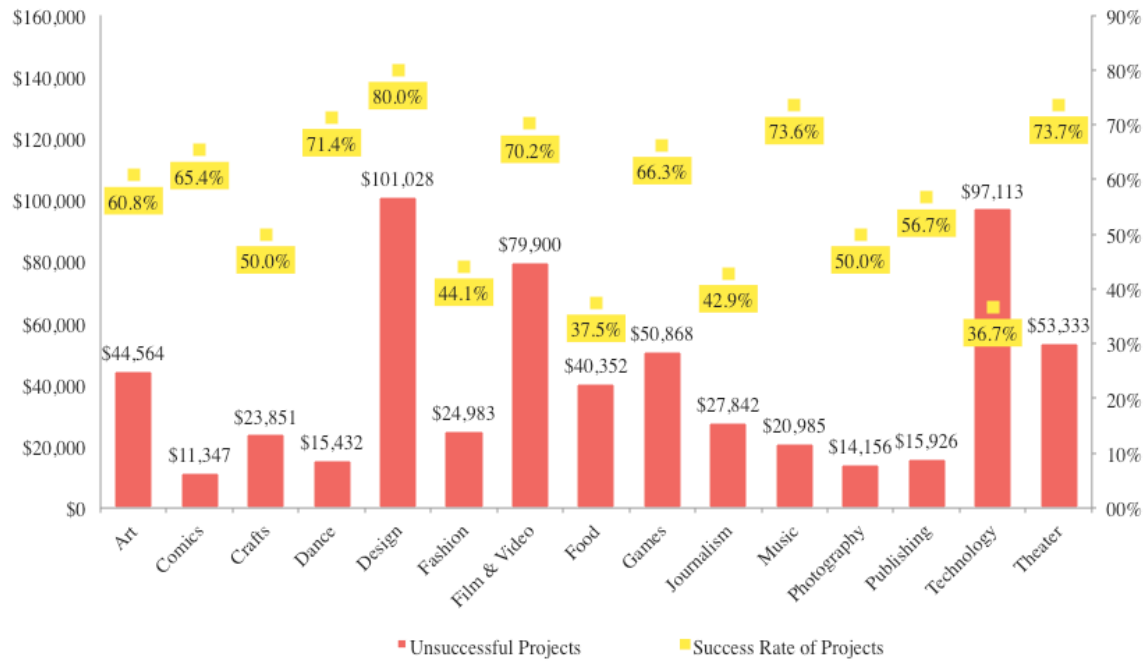


Figure 4: Average funding goal of unsuccessful projects per category

The third category with the highest average funding goal is Food (\$13,842). The three categories with the lowest average funding goals for successful projects are Crafts (\$3,021), Art (\$4,272) and Dance (\$3,021). Crafts and Dance are also two of the categories with the lowest number of projects.

Arts and Crafts have also two of the three highest variations between funding goals of successful and unsuccessful projects. Average funding goals of unsuccessful Arts projects were 1043.0% higher than the average funding goal set by successful projects of the same category. Crafts registered for the same percentage a value of 790.0%. The second highest variation was registered for, Theater at 998.0%. Even though, Theater registered a high variation, the category is one of the most successful categories. Projects that registered such a difference in average funding goal only account for 26.3% of all projects within the Theater category.

According to Figure 5, unsuccessful projects have a lower average number of backers when compared to successful projects across all categories. Games has the highest average for number of backers on successful projects of all the categories (631).

Quantitative analysis

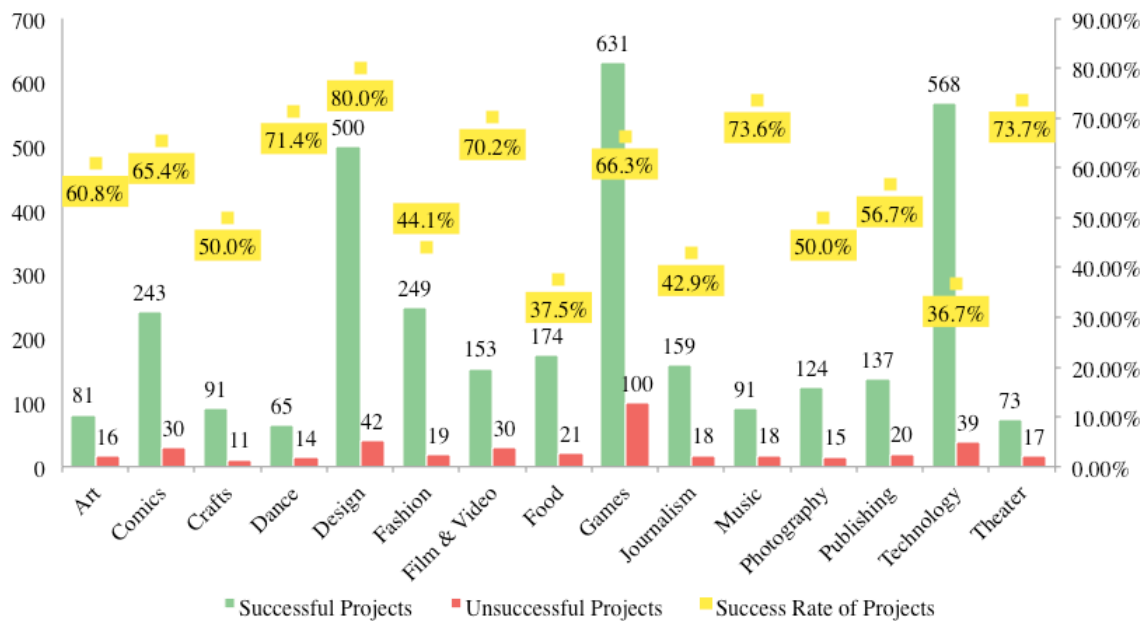


Figure 5: Average number of backers per category

Even though Technology has one of the lowest scores of successful *versus* unsuccessful projects (30.71%), successful projects have the second highest average number of backers (568). One possible explanation might be the trendiness of new product launches in this category, as they attract a large number of users to Kickstarter, and therefore more potential backers. Despite the fact that Design has the highest ratio of successful *versus* unsuccessful projects it only has the third highest average number of backers for successful projects (500). When comparing Design to Games and Technology, the former two have shown a lower ratio of successful projects but a higher average number of backers per successful project.

Despite only having 44.1% of successful projects out of the total number of projects within the category, Figures 6 and 7 show that Fashion has the highest average donation per backer to successful projects of all fifteen project categories (\$248.02). Technology has the highest average donation to unsuccessful projects (\$82.27) and the second highest average donation to successful projects (\$220.00). On average unsuccessful projects received a donation of \$52.83 per backer. Successful projects received on average double the amount when compared to the average donation per backer to unsuccessful projects (\$119.07). Amounts raised across all project categories were higher on successful than on unsuccessful projects and vary according to project category.

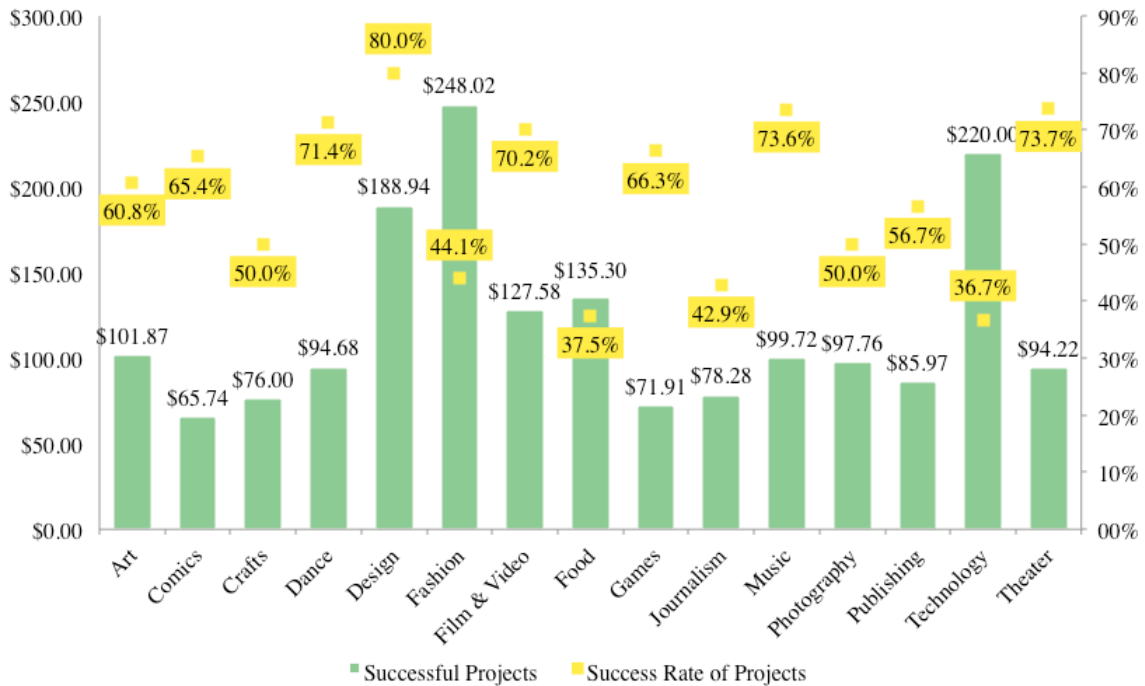


Figure 6: Average donation per backer to successful projects per category

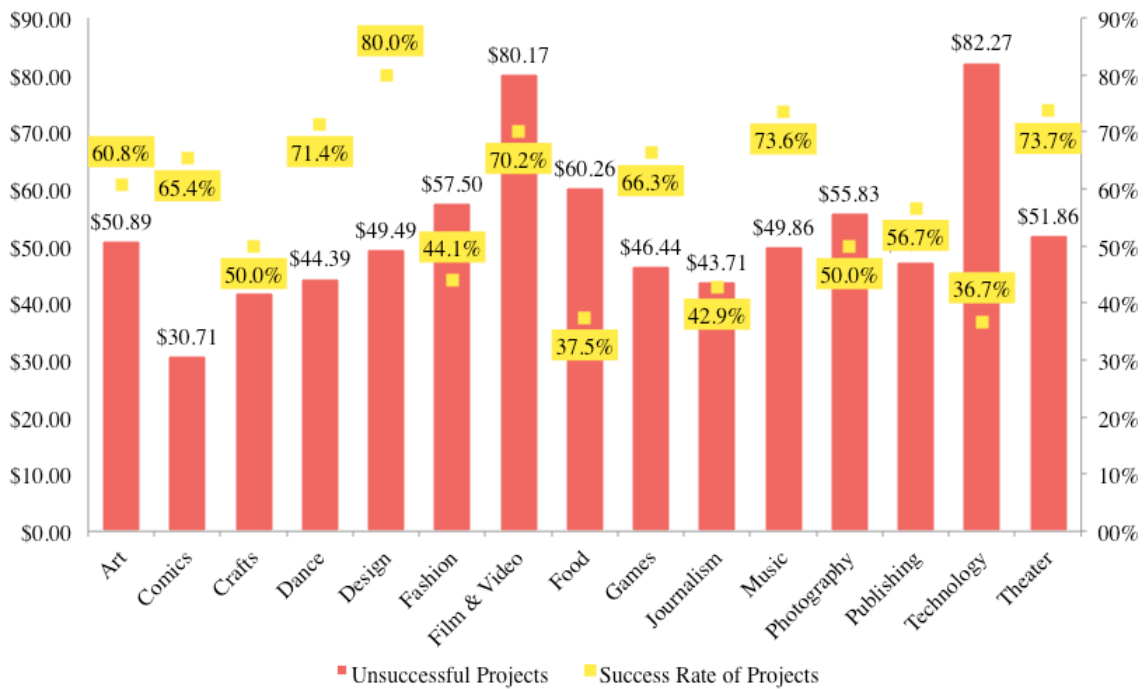


Figure 7: Average donation per backer to unsuccessful projects per category

Figures 6 and 7 also confirm that the average donation per backer to unsuccessful projects (\$52.8) is significantly lower than the average donation to successful projects

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(\$119.1). So, it is obvious that successful projects have the ability to make backers donate more.

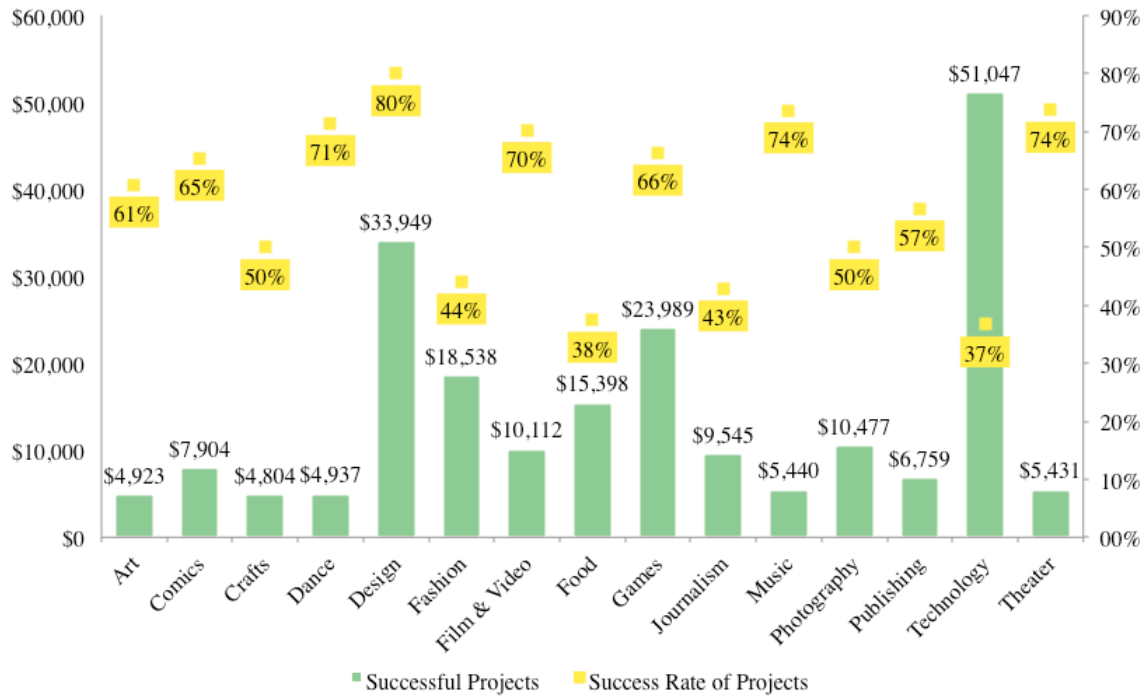


Figure 8: Average amount raised per successful project per category

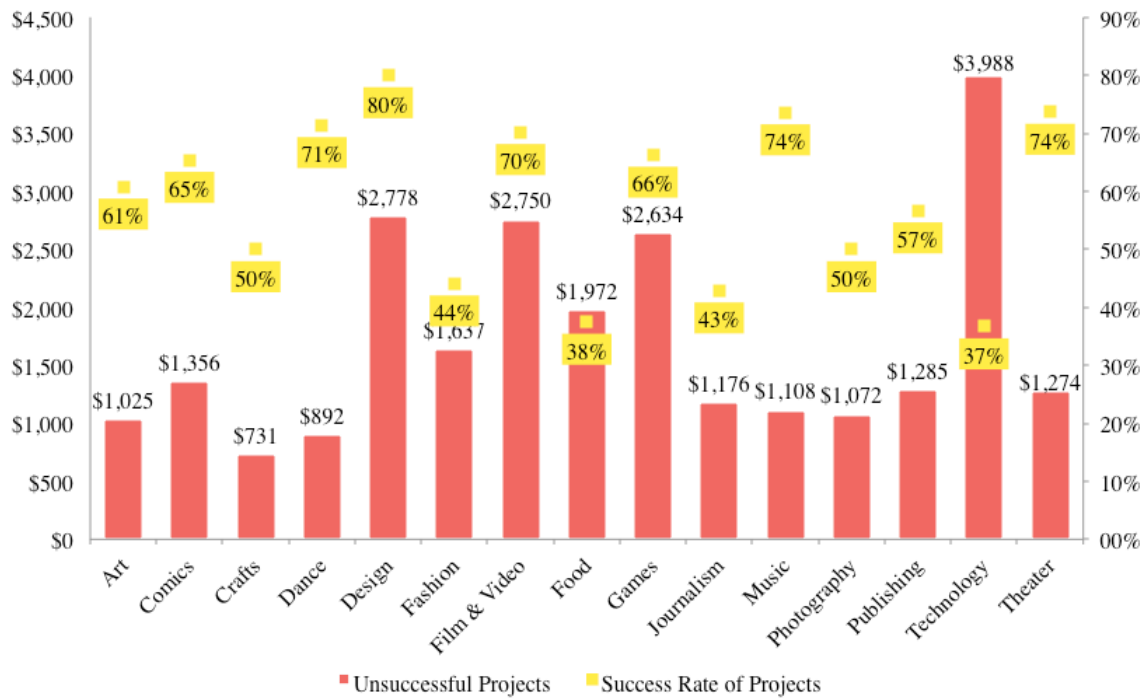


Figure 9: Average amount raised per unsuccessful project per category

As stated in Figures 8 and 9, the three categories with the highest average amount raised per successful project were Technology (\$51,047), Design (\$33,949) and Games (\$23,989). Contrarily, Crafts, Art and Dance were the three categories with the lowest average amounts raised per successful project (\$4,804, \$4,923, \$4,937).

Success and popularity are not evenly distributed across all project categories: Design has a ratio 80% to 20% of successful versus unsuccessful projects while Technology only sees 36.7% of all its projects be successful on our sample. The categories that attract more project creators are not necessarily the ones that have a higher average number of backers per project. Unsurprisingly, Games has the highest number of backers, due to its popularity, but not a large number of projects when compared to other categories.

By revisiting Figures 2 and 3 we can imply that shorter funding campaigns and lower funding goals may be tied to project success. In fact, unsuccessful projects have an average duration 112.9% higher than the average duration of successful projects on our sample. Funding goals are also 482.4% higher for unsuccessful projects on average. A similar comparison can be made between Figure 4 and Figure 6. Naturally, categories that feature a higher average number of backers also have higher average amounts raised, which means that they can attract the right backers to their projects. Even though Fashion has one of the highest percentages of failed projects of all fifteen categories, it features the most generous backers.

In conclusion, we can infer that projects with lower the funding goals and shorter durations have more chances to succeed. Also, it is true that the higher the number of users donating money the higher the amount raised. So, we can imply that the higher the capacity to attract the right potential backers the higher are the amounts raised of the project.

4.2 Creator data

Figure 10 gives us the distribution of creators across all fifteen project categories. Distribution of creators varies slightly from project distribution value on Figure 1, and that is related to the way repeat project creators are being counted across all fifteen project categories. If creators have created more than one project in the same category,

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they are only counted the first time as a new project creator of that category. If a repeat creator had created a different project in a different project category, it is being counted as a new project creator of the new project category. Again Film & Video (19.0%), Music (18.8%) and Publishing (13.5%) are the three largest categories, with the highest number of successful *versus* unsuccessful projects. The three categories with the least amount of successful project creators are Dance (0.8%), Crafts (1.5%) and Photography (1.8%). The three project categories with the highest ratio of successful *versus* unsuccessful creators are Design (80.5%), Theater (75.0%) and Music (74.6%). Technology (32.2%),

Fashion (42.2%) and Food (37.5%) are the three categories with the lowest performing ratio of successful *versus* unsuccessful project creators. Once more we can see that success and popularity are not evenly distributed across all project categories: categories with higher creator success rates don't necessarily feature a larger number of projects.

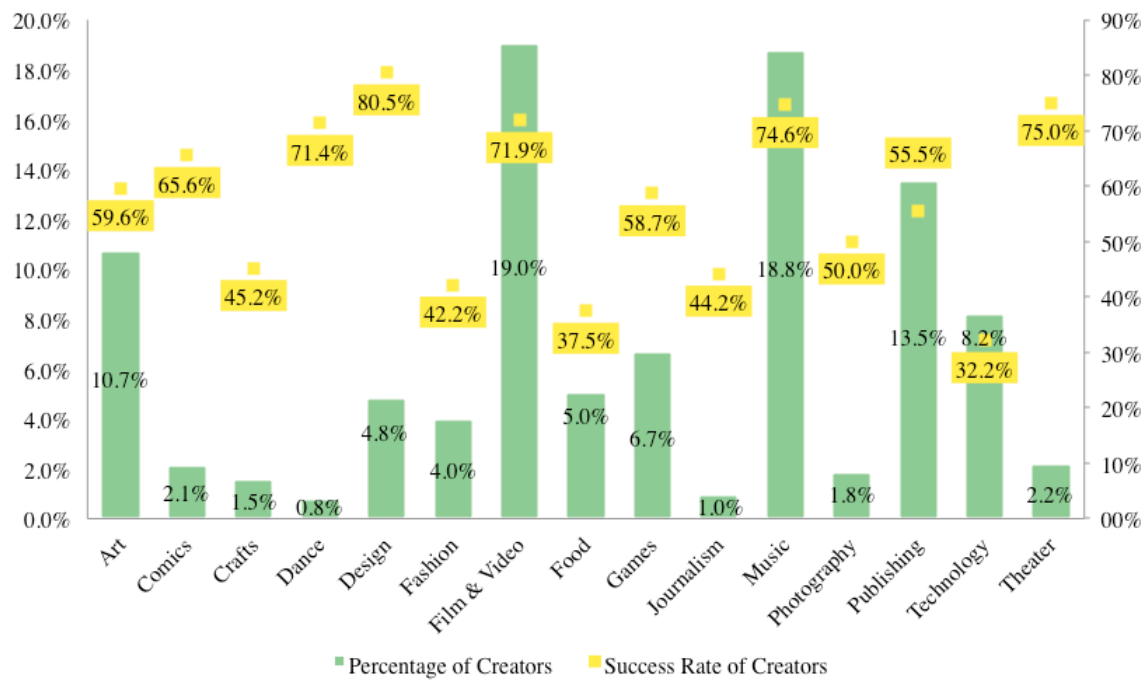


Figure 10: Distribution of creators per category

4.2.1 Personal information

Two of the variables studied that are related to personal information of project creators are location and number of Facebook friends. As discussed in chapter 2, even though crowdfunding platforms relax geographic constraints among funders (Agrawal

et al., 2011), location of project creators can still play a key role in funding cycle success since the underlying talent of an area's population can affect creative endeavors (Mollick, 2014).

Since Kickstarter's inception in 2009 and until 2012, the platform was only available in the US and for US citizens. Now and since 2012, it is available across multiple countries in Europe (UK, the Netherlands, Denmark, Ireland, Norway, Sweden, Germany, France, Spain, Italy, Austria, Belgium, Switzerland, and Luxembourg), in Canada, Australia, and New Zealand.

In this study we wanted to analyze whether project location, US *versus* EU (UK, the Netherlands, Denmark, Ireland, Sweden, Germany, France, Spain, Italy, Austria, Belgium, and Luxembourg), affects creators' success and how it varies according to general category performance. Our sample features 50,586 creators located within the US and 12,538 located within the twelve EU countries where Kickstarter is available. Since 79.8% off all creators on our sample are located within the US and only 19.8% in the EU, it is interesting to see how a much smaller number of project creators compares to the much larger population of US creators in terms of funding cycle performance.

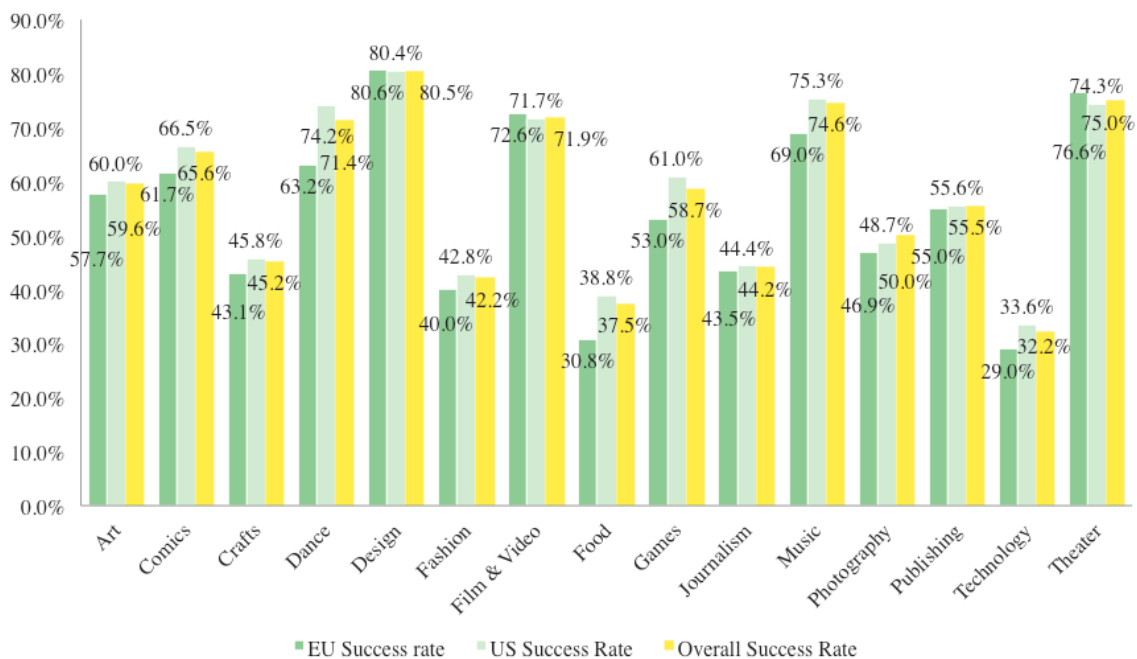


Figure 11: Percentages of success rates according to creator location and project category

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Figure 11 shows that creator performance in the EU follows approximately the same variation from one project category to the next. Success rates of project creators in the US are slightly higher in most categories even though Film & Video and Theater feature success rates that are higher for creators located in the EU.

Another personal information variable is the number of Facebook Friends if a creator chooses to link his or hers Facebook account page to Kickstarter. As overviewed in chapter 2, the number of Facebook friends can provide insight into the size of a creator's personal network, and help understand its influence in funding cycle success. On our sample, 43,1% had data on number of Facebook friends, meaning that 27,338 creators linked their social network accounts to Kickstarter. Figure 12 clearly shows that successful project creators had on average a larger network by about 88.3% when compared to the average number of Facebook friends of unsuccessful project creators. It is also interesting to see that larger averages do not necessarily mean higher success rates of successful creators *versus* unsuccessful creators. The second highest average, Food (1,559), only has a success rate of 37.5% and Design has a success rate of 80.5% and a much lower average: 691.

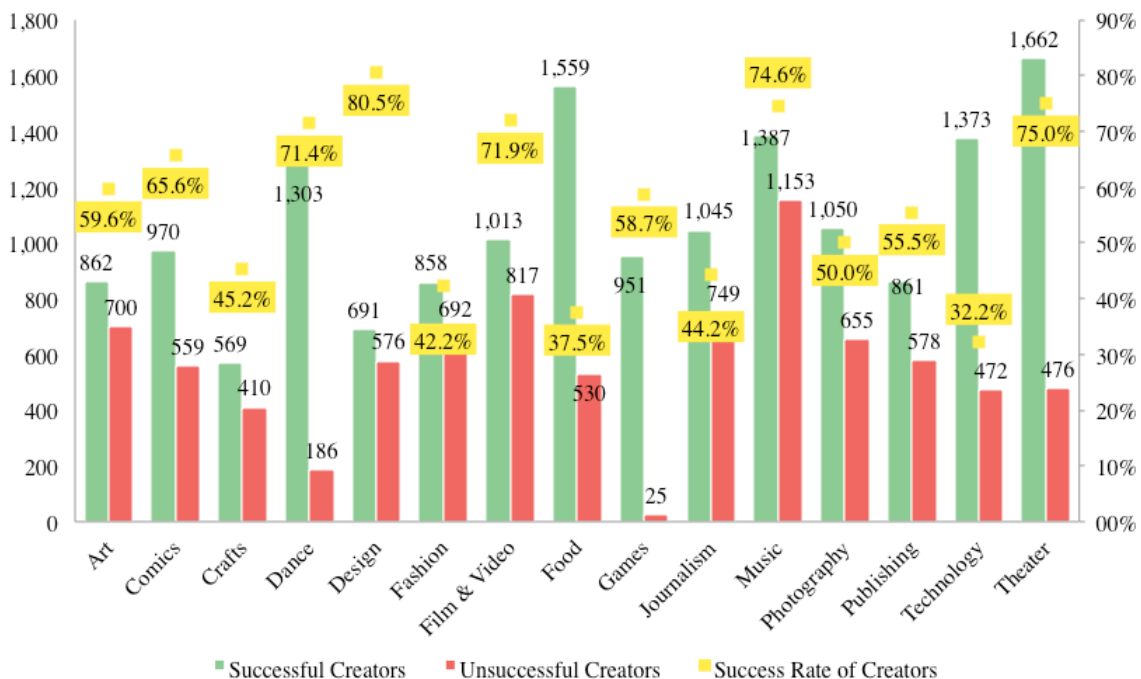


Figure 12: Average number of Facebook Friends of successful and unsuccessful creators per category

As explained by several studies the funding provided by family and friends, as an emotion-driven donation or as an act of reciprocity or social identity only helps project creators eliminate the constraints related to the lack of information on their reliability to potential funders who do not personally know the creator, at the beginning of the project campaign (Agrawal et al., 2015; Colombo et al., 2015; Mollick, 2014).

In conclusion, the continent location variable US versus EU does not change project performance among creators of the same project category, and the size of personal network through the number of contacts on Facebook may help determine the success of a creator.

4.2.2 Creation history

According to our sample 13.6% off all project creators have returned to Kickstarter to help fund another project, and 8.2% were successful.

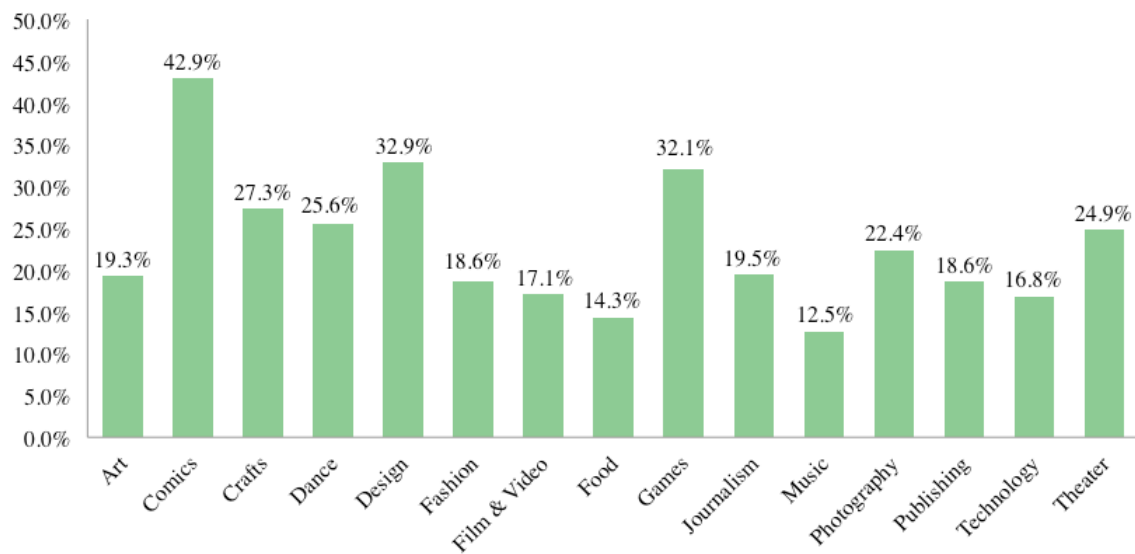


Figure 13: Distribution of repeat creators per category

The three categories with the highest percentage of repeat creators are Comics (42.9%), Design (32.9%) and Games (32.1%). Comics (24.8%) is also the category with the highest percentage of creators with more than one successful project created. Dance (17.2%) and Theater (16%) come in second and third for the highest percentages of successful repeat project creators. Out the 32.9% repeat creators in the Design category almost half have successfully launched more than one project (15.3%).

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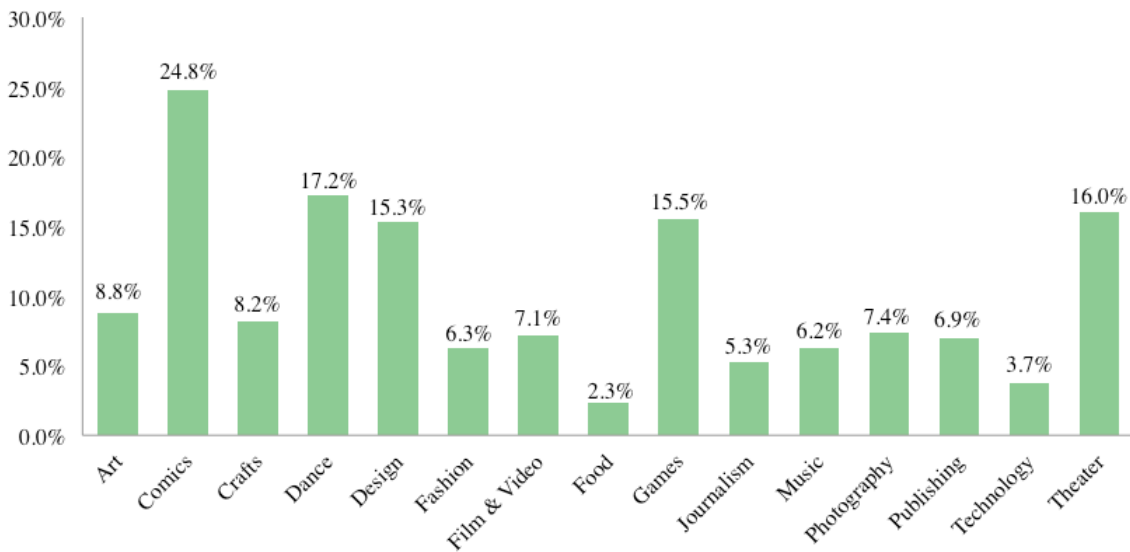


Figure 14: Distribution of successful repeat creators per category

The three categories with the lowest percentages of creators with more than one project are Music (12.5%), Food (14.3%) and Technology (16.8%). Moreover and according to Figure 13, only 2.3% in Food and 3.7% in Technology, are creators with more than one successfully funded project. The third category with the lowest percentage rate is Journalism (5.3%).

4.2.3 Backing history

The distribution of percentage of creators of each category that have backed other project creators is pictured in Figure 15. More than half of all creators on our sample have backed other project creators (57.4%). The highest ratios of creators-backers *versus* non-backers of a single project category are: Comics (74.4%), Design (70.6%) and Games (67.5%). Also, Design and Comics are two of the top performing categories when comparing number of successful *versus* unsuccessful creators (80.5% and 65.6%). Journalism (37.9%), Crafts (41.1%) and Food (41.6%) besides being three of the lowest performing categories (successful *versus* unsuccessful creators) they also have three of the lowest percentages of creators-backers. Interestingly, Comics and Games also are two of the categories that see creators be more active by coming back to Kickstarter

after launching their first project. Another variable we accounted for, in our analysis, was the percentage of creators-backers that have backed other creators within their own category.

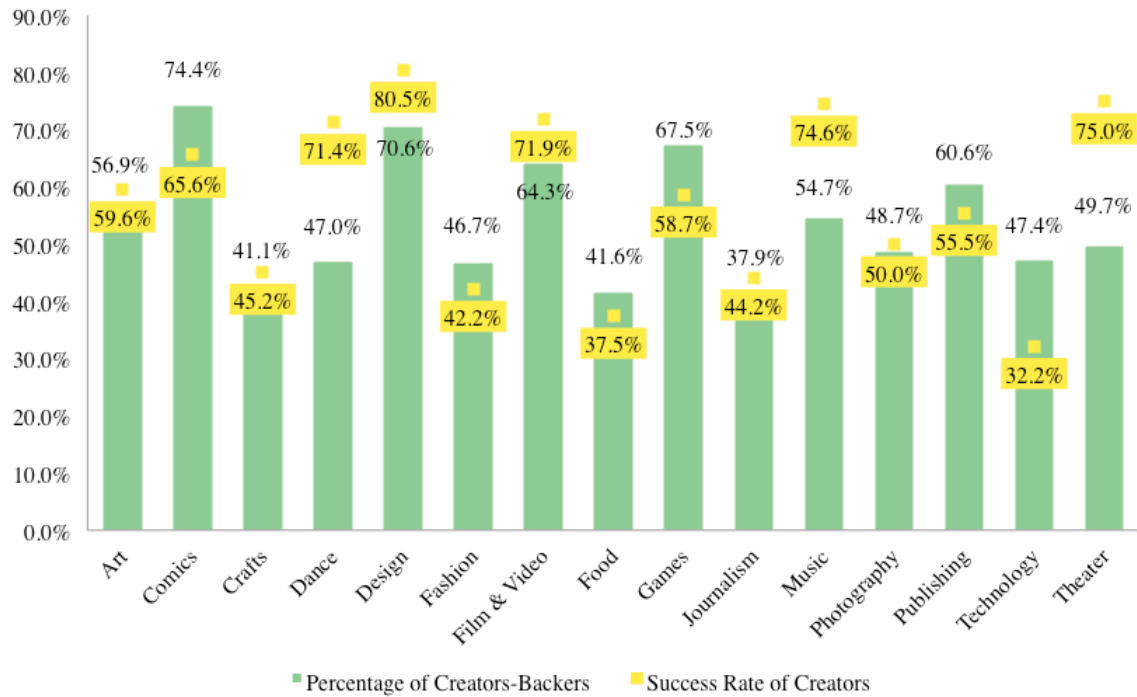


Figure 15: Distribution of creators-backers per category

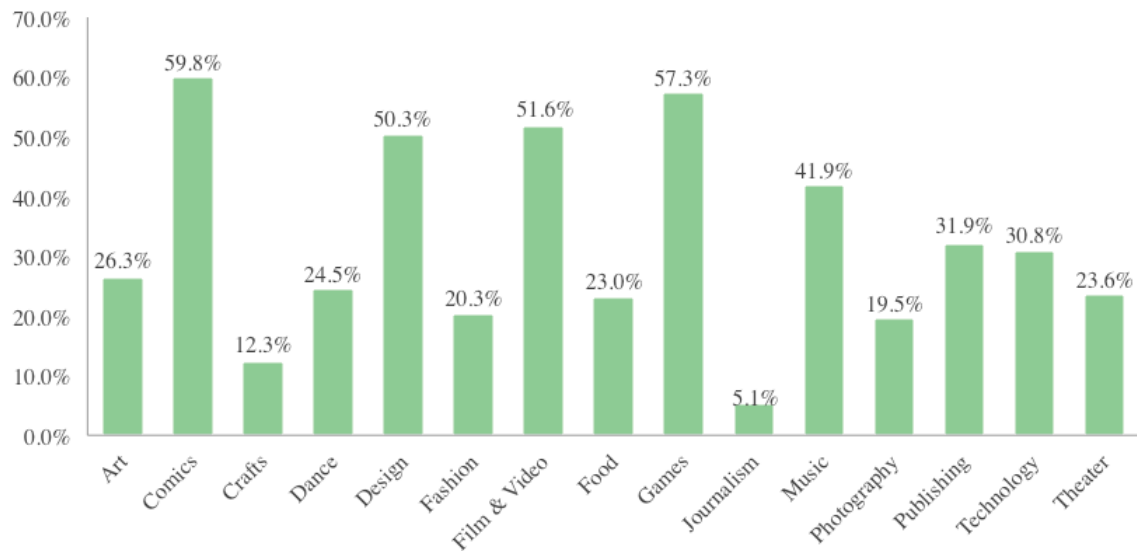


Figure 16: Distribution of creators-backers that back other peers within their category per category

Figure 16, shows us the percentage of creators from each category that have backed other peer members from the same category. The percentage of creators on our sample

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that have backed other creators within their category is 38.1%. On four categories out of the total fifteen (Comics, Design, Film & Video and Games), more than half of all creators have backed, other creators of the same category. Comics (59.8%), Games (57.3%) and Film & Video (51.6%) were the three categories with the highest percentages of creators backing other fellow project creators. The three categories where the percentages were the lowest are: Journalism (5.1%), Crafts (12.3%) and Photography (19.5%).

4.2.4 Network activity

The number of updates of each project creator to created projects and the number of comments on Kickstarter by the creator were also extracted and can give us a glimpse into user activity inside the network. Figure 17 and 18 give us the average numbers of user activity variables such as number of comments and project updates by project creators across all categories. Average number of updates and average number of comments is notably higher for successful creators than unsuccessful creators. Games, had the highest average for both variables, 43, for updates and 80 for the number of comments.

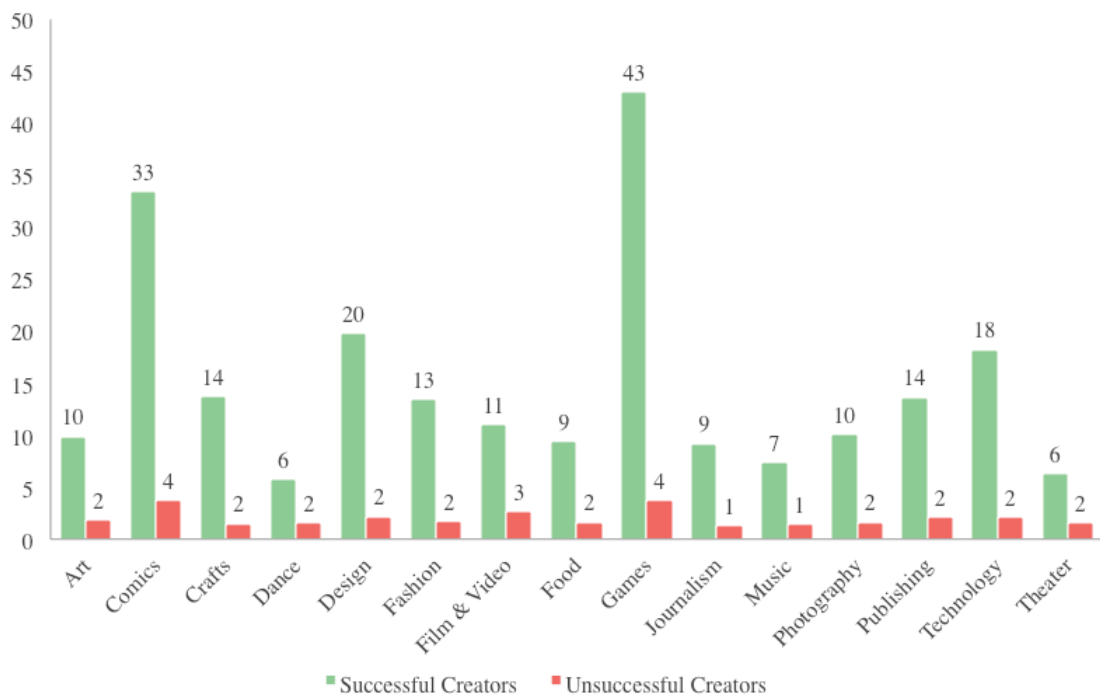


Figure 17: Average number of updates by creator per category

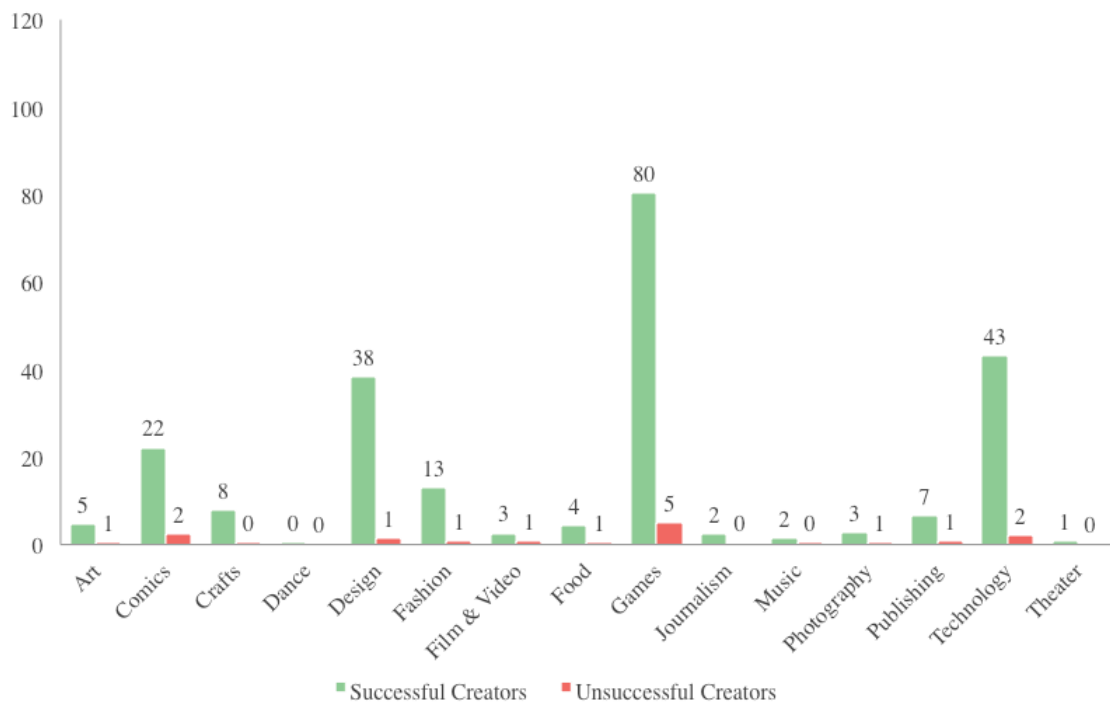


Figure 18: Average number of comments by creator to their projects or projects by others per category

One can argue that creators in that category are highly active on Kickstarter, updating and commenting their projects or projects by others a fairly high number of times. Comics (33) and Design (20) are the second and third categories with the highest average number of updates. The three categories of creators that post less updates to their successful projects on average are: Dance (6), Theater (6) and Music (7). Figure 18 tells us that Technology (43), Design (38) and Comics (22) are the other three categories with highest averages when compared to other categories. The bottom three categories are: Dance (0), Theater (0) and Music (2).

4.3 Network dynamics, success and project categories

More than half of all creators on our sample have backed other project creators. 13.6% off all project creators have returned to Kickstarter to help fund another project, and 8.2% were successful. Successful project creators post on average 750% more project updates than unsuccessful creators. Comment activity by successful creators is 1500% higher when compared to the same activity by unsuccessful creators.

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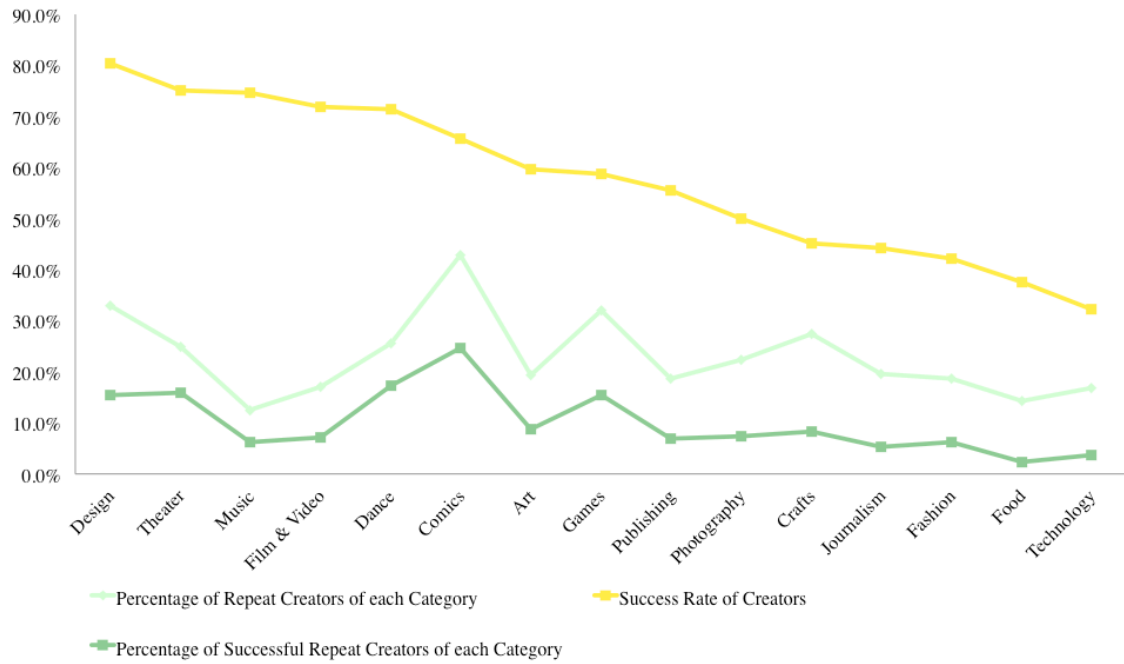


Figure 19: Success rate of project creators *versus* creation history per project category

By analyzing the variances is noticeable that understanding how network dynamics inside Kickstarter, such as learning by doing, reciprocity, visibility or network status and social identity, influence success and how such influence can vary from one category to the next is key.

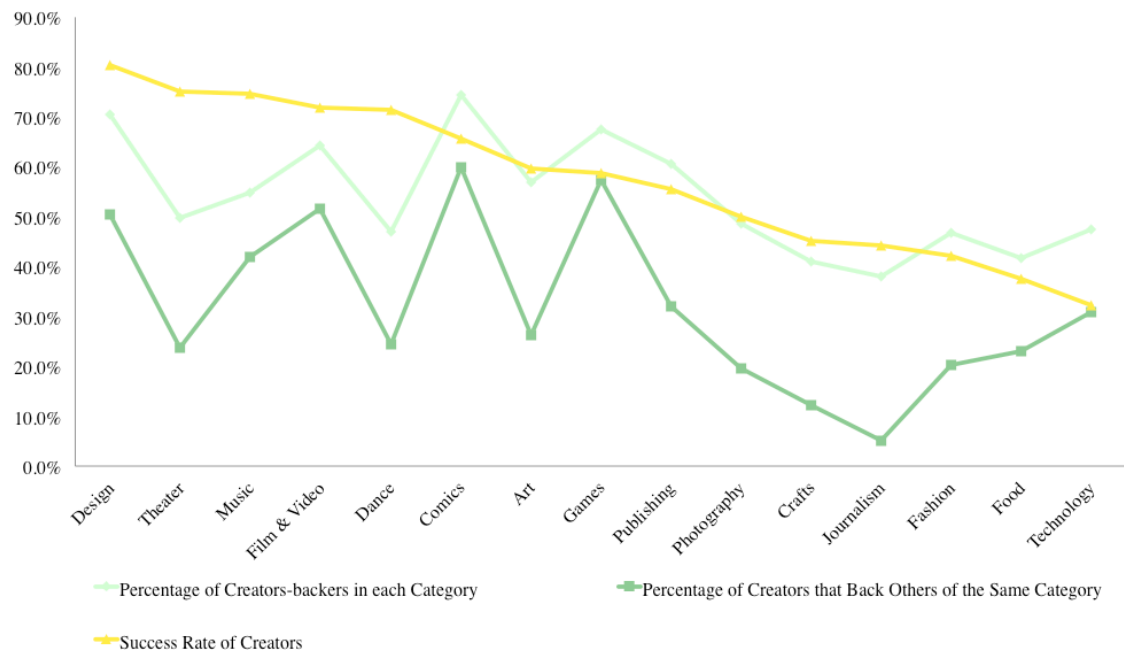


Figure 20: Success rate of projects creators *versus* backing history per project category

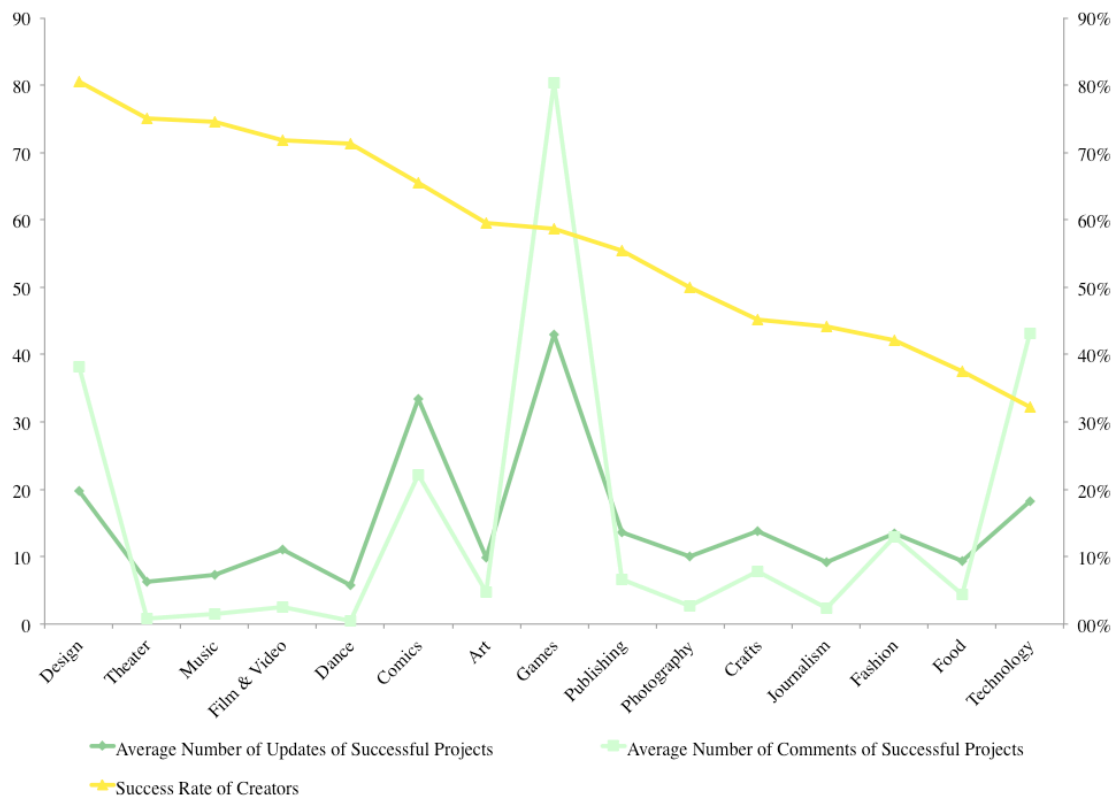


Figure 21: Success rate of creators *versus* network activity per project category

As we have seen earlier such overall averages can vary widely across all fifteen project categories, which might explain why some categories feature a higher number of successful creators than others. From analyzing Figures 19, 20 and 21 it's clear that categories with a higher success rate among project creators have higher percentages of creation and backing histories and higher averages of network activity when compared to creators of least successful project categories, aside from a few exceptions.

4.3.1 Design, Comics and Games

Design, the category with the highest percentage of successful creators shows a similar behavior to Comics and Games. Even though Design creators (80.5%) have been more successful than creators within Comics and Games, more than half of all creators within these two categories have created successful funding campaigns: Comics (65.6%) and Games (58.7%). The three categories show high interaction by creators: high numbers of project updates, comments and high support between members of the community, creators support one another and repeat funding experiences. In fact Comics is the category that sees creators back one another more

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frequently (59.8%) and repeat successful projects (24.8%) more than in any other category.

Such high network activity, and high average number of updates and comments, can be a by-product of the nature of the work itself, where input from the community is key in leading the direction of the endeavor being developed. As reviewed in 2.2, aside from seeking funds through Kickstarter, project creators also seek feedback and validation from peer members. For example game developers or comic artists can use project updates on Kickstarter, to ask for feedback from their community of backers, and help them better the work they are developing, which in return increases both the average number of updates and the average number of comments by the creator. High network activity might also increase network visibility and social status of users within their category allowing them to eliminate funding frictions related to the lack of information on the quality of their projects (Agrawal et al., 2015). By providing more information on the work they are developing, creators can create a sub-community of supporters around their products thus making crowdfunding a valuable funding instrument (Belleflamme et al., 2011).

But what is more interesting to observe is that all three categories show a tight knit community of a relatively small number of creators: Design (3045 creators), Comics (1321 creators), Games (4234 creators); that support one another and keep coming back to Kickstarter to repeat past successful experiences. More than half of all creators of the three categories show support to other peers by providing funds: Design (50.3%), Comics (59.8%), Games (57.3%). By mimicking each other's behaviors in how a campaign is put together, or how to engage the community by posting comments to projects or supporting fellow members, they may increase their chances of success. The network dynamics of learning by doing, reciprocity, shared identity and network visibility might be seen as success factors in these three categories.

Moreover when comparing project data on Table 3 to creator data, the categories of Design and Games have also attracted on average two of the highest number of backers when compared to other categories. They also have average amounts raised per project that are 217.0% and 178.2% higher than the average proposed funding goal of successful projects, meaning that on average successful projects on those categories

have doubled or nearly doubled the amount of money they were seeking to get from backers on Kickstarter.

4.3.2 Music and Film & Video

Music and Film & Video are the two largest categories and two of the most successful ones. With more than 70% of all creators reaching their proposed funding goals, creators on both categories have similar behaviors. Even though the number of creators that repeat successful experiences is low, and their interaction with potential backers through comments and project updates is also much lower than the values registered for Design, Comics and Games, they are still very supportive of one another: more than 50% of creators support other creators within Music and 41.9% support other peers within other Kickstarter categories. For Film & Video those values go up: 64.3% of all creators support other creators and 51.6% give back to fellow peer members of the same category. What is interesting to see is that this behavior might not be purely a result of the interaction between users inside Kickstarter to secure funds through reciprocity and shared identity but also a product of the characteristics of the two offline creative communities in itself. Creators might be more prone to help one another complete their projects and collaborate. Such characteristics can be transposed from the offline world to the crowdfunding platform, where creators back others of the same creative community.

4.3.3 Theater and Dance

Theater (75%) and Dance (71.4%) are also two of the most successful categories, and also have two of the three highest percentages of successful repeat creators: Theater (16.0%), Dance (17.2%). But contrary to the other more successful categories, less than half of all project creators back other creators and only about 20% back creators within the same project category. Network activity is also much lower: the average number of updates to successful projects is 6 and the average number of comments by creators to their projects and projects by others is 1 for Theater and 0 for Dance. Even though these creators seem less active on the platform, they still want to use it to crowdfund their projects. About a quarter of all users of the two categories choose to return to

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Kickstarter: Theater (24.9%), Dance (25.6%). The sizes of the two categories on our sample are also similar: Theater (2.2%), Dance (4.8%). One possible explanation might be related to the characteristics of the creative community of the two categories, which may be more prone to build artistic work in a less collaborative environment. The network dynamics of learning by doing, reciprocity, shared identity and network visibility might not be seen as success factors in these two categories.

4.3.4 Art and Publishing

Even though Art and Publishing have lower success rates, more than half of all project creators of the two categories on our sample were successful: Art (59.6%), Publishing (55.5%). Aside from the success rate, these two categories share similar behaviors on all other variables. Category size is also similar, both categories are medium-sized when compared to the population of creators and projects on our sample: Art (10.7%), Publishing (13.5%). On average, creators in the two categories have lower network activities, number of updates and comments, but almost 60% of all creators on both categories have supported other fellow creators on Kickstarter. Backing others of the same categories is much less frequent in Art (26.3%) and Publishing (31.9%), which might mean that shared meaning or identity between fellow peer members of the same category does not have the same influence as in other categories.

4.3.5 Photography

On our sample, half of all creators of the category were successful (50.0%). Registered percentages of creators that have backed other creators within Kickstarter were lower than in other more successful categories. Only 19.5% of all creators in Photography have backed other creators of the same category. Less than half of all creators have backed projects of other members, 48.7%. More than 20.0%, 22.4%, of all Photography creators have returned to Kickstarter to launch yet again another project but only 7.4% were successful. Registered network activity by users was average: 10 updates and 3 comments per creator.

4.3.6 Crafts, Journalism, Fashion and Food

The four out of the five categories with the worse registered success rates were: Crafts (45.2%), Journalism (44.2%), Fashion (42.2%) and Food (37.5%). All four categories share similar behaviors on all variables: small number of repeat creators, small number of creators that back other creators, and lower averages of number of posted updates and comments. Crafts and Journalism have a similar number of creators on our sample: 1.5% and 1.0% respectively. Fashion and Food have a larger number of creators on our sample: 4.0% and 5.0% respectively.

The percentage of repeat creators is lower than 20% on three of the four categories: Journalism (19.5%), Fashion (18.6%) and Food (14.3%). The exception is Crafts with a percentage of 27.3%. Out of all creators on our sample that have returned to Kickstarter to help fund their projects in Food, only 2.3% were able to reach funding cycle success. Creators that have supported other project creators were less than 50% on all four categories: Crafts (41.1%), Journalism (37.9%), Fashion (46.7%) and Food (41.6%). Moreover only 5.1% and 12.3% of creators within Journalism and Crafts have backed other creators of the same category. The other two categories have more creators backing each other within the same category, but still much lower percentages when compared to creators of more successful categories: Fashion (20.3%) and Food (23.0%). Even though on average the four categories have higher averages of network activity when compared to Music, Film & Video, Theater or Dance, they still have lower averages than any other more successful category like Design, Games and Comics: Crafts (14 updates and 8 comments per creator on average), Journalism (9 updates and 2 comments per creator on average), Fashion (13 updates and 13 comments per creator on average) and Food (9 updates and 4 comments per creator on average).

These least successful categories might not be using the network dynamics of learning by doing, reciprocity, social identity and network visibility to their full advantage on their funding campaigns. But one might argue that creators in the Fashion category are on average more active by posting more project updates and comments than several of the other more successful categories. And when comparing creator data with project data on Table 3, we can conclude that even though Fashion is one of categories with the least percentage of successful *versus* unsuccessful creators it has the highest average donation per backer from all categories. It also has the fourth highest

average for number of backers per project, and is one of the four categories with the largest differences between average amount raised and average funding goal per project, next to Games, Design and Technology. So, Fashion creators that were successful have raised more money than the proposed funding goal and have attracted more backers and more money per donation than any other backer to any other creator or project.

4.3.7 Technology

Technology sets itself apart from all categories on all variables. It was expected that the category with the lowest ration of successful *versus* unsuccessful projects (32.2%) should have a similar behavior to all the least successful categories. But the only thing Technology shares with the other least successful categories is success rate. Technology projects have the highest average amount raised of any other category and on average the second largest number of backers per project of all categories. They also have the second highest average donation per backer of all categories. The average amount raised of successful projects is almost double their original goal (193.5%). Technology creators also post more comments (43) on their projects and projects by others than most creators in other categories. Average number of project updates (18) is also higher than registered averages for most categories. Technology creators also support other creators at the same level of other more successful categories like Dance. Of 16.3% of all technology creators on our sample that have chosen to return to Kickstarter and launch a new project campaign, only 3.7% were successful.

Even though creators within Technology are active and engaged within the crowdfunding platform, they do not have the same results as other engaged and active category members. One possible explanation can be found in the difference between average funding goal of successful and unsuccessful projects. Unsuccessful Technology projects have asked for 368.2% more money than the average goal of successful projects, and feature the second highest average funding goal (\$97113) for unsuccessful projects right after Design. The large amount of backers can be related to the trendiness of the category in itself. Such projects might attract a larger audience of potential backers through WOM to their project pages.

5. Qualitative analysis

After quantitative analysis of the data collected, we contacted 123 project creators from the following project categories: Design, Comics, Games, Fashion, Food and Technology. The identification of which project categories to choose from all fifteen was done in section 3.2 – three successful creators from three categories with high success rates and high network activity by creators and three successful creators from three categories with underperforming success rates when compared to other categories. After 3 interviews of each case (over performing and underperforming), we reached the point where making more interviews would be redundant. Creators were selected based on their activity inside Kickstarter: more than one successful project launched in the category being studied, past backing actions and network activity – posting project updates and commenting projects. In our view it was necessary to understand whether project creators that show high engagement and high network activity inside Kickstarter from both high performing and low performing categories, feel that their behavior is in any way connected to their success inside the platform. On this chapter, first there will be a brief description of the profile of each project creator and then the information gathered by the interviews will be presented.

5.1.1 Creators description

First a detailed overview of the three creators from the three more successful categories will be given – Design, Comics and Games. Then, a complete summary of the three profiles of three successful creators of three of the least successful categories – Technology, Fashion and Food - will be reported.

One of the responses we were able to collect was from Kacha¹⁰, a creator from Thailand, with a total number of 7 projects created on Kickstarter - 4 projects created in Design, 2 in Games, and 1 in Art - 4 of them successful. Kacha is passionate about dice design, 4 of his projects are in that sub-category, a popular one among Kickstarters. He has backed a total number of 26 projects on Kickstarter in the categories of Design, Technology, Games, Film & Video and Fashion. Solely in Design he has backed 6 projects. He also has a fairly high number of network activity - he has commented his own projects and projects by others 329 times, and posted 67 project updates to his own projects. After three failed launched projects his 4 successful ones were able to raise a total amount of \$249,168. His last project launch in Design had a set funding goal of \$5,000 and was able to raise an amount 1235.0% higher than the one intended from backers (\$61748).

KoryBing¹¹ is a Comics creator from Portland, Oregon in the US, and draws comics and designs games about monster people. Until today he has launched 3 successful projects, 2 in Comics and 1 in Games. He joined the platform in the year of its inception, 2009 and since then has backed 56 projects – 22 in Comics, 8 in Games, 8 in Publishing, 5 in Film & Video, 4 in Design, 4 in Art, 4 in Crafts, and 1 in Technology. Network activity by Kory follows the norm of his category - he has posted 142 project updates to his 3 projects and has commented his own projects and projects by others 134 times. All three campaigns have video and have surpassed funding goal amounts by 268% on average.

Jack Darwid¹² is from Bandung, Indonesia, and joined Kickstarter back in 2011. He has successfully launched two projects in Games, and has been able to successfully raise \$16,733 through the platform. His first project raised an amount 203.5% higher than the initial set goal. Jack has backed 21 projects on Kickstarter all from his category. Number of project updates is 78 in total and number of comments posted on the network is 451.

Next we shall discuss the interviews of the three creators from the least successful categories. We will start by overviewing Philip McAleese¹³ creator in Technology from

¹⁰ www.kickstarter.com/profile/1429341405

¹¹ www.kickstarter.com/profile/963152868

¹² www.kickstarter.com/profile/153035614

¹³ www.kickstarter.com/profile/1670187625

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Belfast, UK and founder of See.Sense, a company in Technology, that makes intelligent connected lights for bicycles. Philip has launched two successful projects in the category, having raised a total amount of £114,057. One of the projects was selected by Kickstarter's team as Staff Pick¹⁴. Previous backing actions have included a total number of 96 projects, 52 of which in Technology. Other categories have included – Design, 39; Publishing, 2; Food, 1; Film & Video, 1; Music, 1. Network actions include 121 comments to created and backed projects and a lower number of total project updates to both projects - 50.

Peter Sandford¹⁵ is from New York, US and since he has joined Kickstarter in 2014 he has launched two successful projects in Fashion. Peter's work specializes in leatherwork, he designs and produces, watch straps, wallets and briefcases. As a creator Peter has backed 5 projects, written 35 comments, and posted 16 project updates to his two projects. While his funding goals for both projects were £8,000 he was able to raise a total amount of £18,209 through Kickstarter – a 227.6% increase from what he was looking for. His previous backing actions have consisted of 2 projects in Fashion, 1 project in Food, 1 in Design and 1 in Crafts.

Mark Bechard¹⁶ is a creator in Food that develops beef jerky projects on Kickstarter. Mark is from Kronenwetter, Wisconsin, US, and since he joined the platform in 2013 he has launched 10 projects, all in the Food category - 4 of them successful and one being currently funded as of June 2016. With just 4 projects he was able to raise \$12,845 through crowdfunding. His previous backing actions have consisted of 11 projects, 10 of which Food and 1 in Technology. Network actions comprise 29 updates made to projects and 22 comments.

5.1.2 Successful creators, different performing categories: is their behavior similar?

In order to understand whether creators believe that their behavior inside the crowdfunding platform is in any way connected to their success inside Kickstarter we conducted a semi-structured interview to all six project creators as explained in section

¹⁴ www.kickstarter.com/projects/1670187625/see-sense-icon-the-intelligent-and-connected-cycle

¹⁵ www.kickstarter.com/profile/1233314455

¹⁶ www.kickstarter.com/profile/1455229821

3.2. We shall begin the analysis by the three creators from the more successful categories – Design, Comics and Games, and then proceed to the categories of – Technology, Fashion and Food.

Starting with Kacha, successful creator in Design, first question focused on whether the creator thinks that their backing actions have positively impacted their projects. Kacha responded by saying that he can possibly relate his success to his backing actions even though he does not think its influence has had a great impact. The following question asks creators whether they think that by backing other of the same category they feel a sense of community towards one another, which leads them to support each other's projects, Kacha agrees. Even though he thinks he as a creator does not operate like that - he backs projects that he thinks are unique in any way – he confirms that there are a lot of other creators that do cross promotion of each other's projects within Design and support each other's endeavors by donating money. He sees it as a strategy to be successful on Kickstarter but does not use it. From his experience he also believes that after a creator has ran his first successful campaign and has managed to deliver all of the rewards, he or she might have a higher probability of securing money from potential backers because previous backers return to the newly launched project and also share the new campaign with other people. The fourth and final question of the interview is related to whether the creator thinks his network activity of posting project updates and commenting projects is in any way related to their success. Kacha has responded by saying that such activities are key in communicating with his backers. Passing the message that he is a reliable creator and that their promised rewards will be sent, might mean that on the next campaign they might return and bring more users along possibly increasing his amounts raised.

KoryBing our creator in Comics, begins the interview by answering the first two questions on his backing actions, in a contradicting manner. He starts by saying that he does not think his backing actions have had any impact on his success but when a creator backs other creators' projects he or she become familiar with how Kickstarter works and how a successful campaign looks like, helping them succeed. Then he confirms that there's a sense of community inside the category of Comics on Kickstarter, but because there is a sense of community in the category in general. He believes that they are a small group of people so the chances of him knowing creators

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doing Comics on Kickstarter already, is high, and as such he wants to support them. From his remarks we can already see that there is a need to reciprocate donating behaviors based on social identity, which might can be tied to his behavior as creator-backer – he mostly backs projects in Comics - 22 in total. But what is interesting from his answers is that the behavior might not be directly related to the community inside the platform but rather come to the platform guided by offline social ties of belonging to a group. Kory also believes that with each new campaign he creates, he learns, how not to make past mistakes and better his chances by perfecting each detail of a campaign. Commenting and posting project updates is also key for Kory, he believes it is his way of getting backers in the loop on how his project is progressing so next time they can still have faith in him and back yet another of his projects.

Jack Darwid from Games answered his first question by saying he solely backs projects from his own category if he likes the project, the campaign and the creator, then if everything checks out he sends the money. He also confirmed that other creators in Games back each other by donating money, because they relate to one another since they develop projects in the same category. For him, having a successful track record of launched projects means that potential backers can trust him hence it increases his chances of succeeding in the next project. Another way to maintain a relationship of trust with actual and potential backers is through network actions such as comments and project updates. Jack believes that by being honest and giving feedback on his project to Kickstarter users allows backers to trust him with their money. Such relationship of trust that Jack believes he creates around his projects through his network actions might increase his status as a reliable creator, which in return may increase his chances of succeeding in yet, another project launch.

Now we will overview the responses of the three creators from the three categories with lower success rates. Technology is our first. Creator Philip McAleese begins by saying that even though he still backs projects by other creators he no longer thinks it has the same impact on success it once had, when Kickstarter, was something new and exciting for all involved. Also, he states that there is a sense of community among a lot of creators in Technology on Kickstarter, but says that his partnerships are more focused on getting the contacts and the experience he needs from other companies and other creators to better develop his products. Even though, he says they were successful

on their first attempt it was useful for the company to have created a previous project on their second launch, because backers trusted that they would deliver which doubled their conversion rate of Kickstarter users. On the last question Philip stresses that regular communication using project updates and comments is really important and has impacted their success on the second project. For Philip it is also key, to keep backers informed on whether the project has secured a new funding round from other investors.

Peter Sandford begins his interview responses by saying he feels it is “almost rude to only take and not give anything back” so that’s why he always looks to see if a creator has backed other projects before he backs them, even though he believes in the project itself. Interestingly just like previous studies have concluded we can say that with this response backing actions by other creators are a key factor to securing funds, solely because previous backing actions by the creator show generosity towards the community, and in return cause the creator to back in reciprocity for the creator’s past behavior (Colombo et al., 2015). Even though the creator says that it was just pure coincidence that he has backed 2 out of 5 projects in his own category, he admits, that since he is more interested in projects being developed in Fashion, he naturally focused on backing those projects instead of others. Because he was successful in his first project, and was able to show to his backers, that he as a creator can deliver and that his products are of high quality, he thinks it was easier to attract backers by the second launch and therefore increase his chances of surpassing his funding goal amount. Communicating with backers through project updates and comments is also key for this creator in gaining backer’s trust and therefore he believes they increase his chances of succeeding in his next campaigns.

Mark, the creator in our sample from the Food category has given one of the more interesting insights of this analysis. On the second question he continued by saying that when a group of people are guided by a common objective – creators in the same category, in this case Food and more specifically beef jerky creators - want to help each other succeed as business owners. Perhaps, such reciprocity among creators of a specific sub set, might mean that because one identifies with the group one might be more willing to donate and vice-versa. Since his first and fourth attempts were failures it is interesting to see that his answer validates his learning path. By launching more than one project he believes he has learned that he needed to adjust his campaigns in order to

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be more successful and make the projects more appealing to people and attract backers that actually donate money. In the last and final question, he stresses how important it is to maintain interest by backers around the projects through updates and comments. Moreover, he finishes by saying that such network actions also contribute to project creator's success because it helps creators get a bigger placement on Kickstarter, and create a buzz around their projects.

All creators are mostly unanimous in saying that even though the impact of their backing actions is not so large it still plays a role in helping them forge partnerships, or learn from one another in order to reach success. One way or another they all say they feel a connection towards other peer members inside their category, and even though that is not the main reason why they support the projects they support, it is still a driver that makes them show more interest on those projects and for that reason contribute more to their area of work. Repeating projects and being able to learn from that experience is also something that project creators connect to their success on Kickstarter. Finally, communicating with previous and potential backers through comments and projects updates was key for all interviewed creators.

6. Conclusion

Everyday new crowdfunding projects are being launched on Kickstarter. Creators seek the platform hoping that their vision is going to be backed by many. But as the numbers of creators and projects have been increasing throughout the years, their success rates have been on free-fall. Crowdfunding is no longer a new and exciting endeavor to take part in, but in reality a lot of small business owners and entrepreneurs still use platforms like Kickstarter to help them fund their business ventures. So it is crucial for such creators to take full advantage of the community that still lives inside the platform so they can better position themselves to succeed. But is there really a community of creators inside Kickstarter that support one another in the path to success? Previous research in crowdfunding suggests that what motivates creators to join Kickstarter is not just the monetary rewards but also the wish to establish connections, seek validation of their work, and engage in a creative community of individuals by replicating the successes of others (Gerber et al., 2012; Gerber & Hui, 2013).

As members of the community, project creators can create and launch new projects, post project updates, take the role of backers and back projects by others and comment both their projects and other's projects. Such network actions that can be performed by creators inside the crowdfunding platform have been tied to crowdfunding success and can create a sub-set of users that are governed by a group of different network dynamics. Learning by doing, reciprocity, visibility or network status and social identity are five of the dynamics connected to the crowdfunding community and campaign success (Posegga et al., 2015). Creators wish to repeat successful projects of

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others and as such a learning process occurs from actually experiencing a launch of a project or by observing others do it (Gerber & Hui, 2013). Creators go through that learning curve and once they have mastered the skills needed to launch a successful project in their category, they can increase their chances of success (Chung & Lee, 2015). Giving back to the community has also been found to play a central role in helping creators reach success. By being generous to other creators, entrepreneurs are expected to reciprocate such behavior allowing for monetary exchange to happen leading to an increase in chances of success. Reciprocating backing behaviors does not only bring monetary rewards from those who were helped, but can also increase the creator's network status and visibility inside the community. Having a status of a giving creator has been identified as a factor in success as well (Colombo et al., 2015). Commenting and updating frequently is also another way of earning network status and visibility inside the network. It increases trust on the creator that he will deliver the promise rewards and complete the project, which may help bring funders back to support the next project (Zheng et al., 2014). Similarly social identification with an individual or a group of individuals also leads people to want to help others reach their objectives, meaning that monetary support may be more likely (Lambert & Schvienbacher, 2010).

We advance the existing literature by exploring differences of network dynamics on success among the fifteen project categories. We want to help project creators understand how can they adjust their behavior according to all success factors associated with the network dynamics inside their own category. First, the quantitative analysis of project data reveals a difference between successful and unsuccessful projects: lower funding goal amounts and shorter number of days of a campaign, are associated with funding cycle success. Variations among project categories were also visible – success rates varied wildly. Creator's personal attributes of location – US *versus* Europe – and size of personal network, through the number of Facebook friends told us that the differences in success rates of creators across project categories are not noticeable, and a larger number of Facebook friends might be a success factor in crowdfunding. Creator data on network actions also showed us differences in behavior between the fifteen project categories. In general, categories with a higher number of

successful project creators have a higher number of repeat creators, a higher number of creators-backers and a higher number of project updates and comments per creator.

Moreover, interviewing three successful creators on high performing categories and three successful entrepreneurs from three under performing categories gave us some insight into how similar their behaviors are. This means that backing others, learning from creating more than one project, giving information to backers by commenting and updating projects can be key in reaching funding cycle success. Additionally this might explain why categories like Food, Fashion and Technology, with less of those behaviors from creators, have lower success rates. By trying to mimic behaviors of more successful categories, creators might be able to put themselves in the path to success.

As exciting as these conclusions might be, this dissertation has some limitations. First and foremost, we did not have the time to define an econometric model to link creator's behaviors to project success. Furthermore it would have also been interesting to have completed the relational analysis being done between creators of the same category, to see their relationships between one another, through reciprocating behaviors. Unfortunately, it is hard to obtain so many results in such a short period of time. Currently, Professor Wenhong Chen, the co-supervisor of this work, from the University of Texas at Austin, and Professor Nuno Moutinho are continuing the analysis of the relational data scrapped by our software, within a project called Roots and Wings. Therefore, the work is already being continued and explored by the academic community. Despite its limitations, this work advances existing literature by shedding some light on how to leverage community behavior inside all the different categories on Kickstarter, so creators can more easily reach project success.

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8. Appendix

8.1 Appendix 1 - Tables

Table 3: Table of project data variables per project category

<i>Category</i>	<i>Percentage of successful versus unsuccessful projects</i>	<i>Percentage of Projects in each category</i>	<i>Average Funding Period of Successful Projects</i>	<i>Average Funding Goal of Successful Projects</i>	<i>Average Number of Backers of Successful Projects</i>	<i>Average Donation per Backer</i>	<i>Average Amount Raised</i>
Art	60,8%	9,7%	31	\$4 271,82	81	\$101,87	\$4 922,93
Comics	65,4%	2,5%	32	\$6 036,20	243	\$65,74	\$7 904,44
Crafts	50,0%	1,2%	29	\$3 020,95	91	\$76,00	\$4 804,35

Dance	71,4%	0,7%	31	\$4 617,37	65	\$94,68	\$4 936,69
Design	80,0%	5,6%	33	\$15 645,91	500	\$188,94	\$33 949,13
Fashion	44,1%	3,4%	31	\$10 938,91	249	\$248,02	\$18 537,66
Film & Video	70,2%	19,0%	32	\$11 560,16	153	\$127,58	\$10 111,72
Food	37,5%	4,0%	31	\$13 841,78	174	\$135,30	\$15 397,72
Games	66,3%	9,2%	31	\$13 464,93	631	\$71,91	\$23 989,13
Journalism	42,9%	0,7%	30	\$9 578,34	159	\$78,28	\$9 544,74
Music	73,6%	19,7%	34	\$5 115,00	91	\$99,72	\$5 439,61
Photography	50,0%	1,5%	30	\$7 402,38	124	\$97,76	\$10 476,85
Publishing	56,7%	12,7%	32	\$5 612,75	137	\$85,97	\$6 758,75
Technology	36,7%	7,9%	33	\$26 376,03	568	\$220,00	\$51 047,31
Theater	73,7%	1,9%	30	\$5 345,02	73	\$94,22	\$5 430,90

Appendix

Table 4: Table of creator data variables per project category

<i>Category</i>	<i>Percentage of successful versus unsuccessful projects</i>	<i>Percentage of creators-backers of each category</i>	<i>Percentage of creators that back others of the same category</i>	<i>Average number of updates of successful projects</i>	<i>Average number of comments of successful projects</i>	<i>Percentage of repeat creators of each category</i>	<i>Percentage of successful repeat creators of each category</i>
Art	58,7%	67,5%	57,3%	43	80	32,1%	15,5%
Comics	59,6%	56,9%	26,3%	10	5	19,3%	8,8%
Crafts	45,2%	41,1%	12,3%	14	8	27,3%	8,2%
Dance	71,9%	64,3%	51,6%	11	3	17,1%	7,1%
Design	80,5%	70,6%	50,3%	20	38	32,9%	15,3%
Fashion	44,2%	37,9%	5,1%	9	2	19,5%	5,3%
Film & Video	71,4%	47,0%	24,5%	6	0	25,6%	17,2%
Food	37,5%	41,6%	23,0%	9	4	14,3%	2,3%
Games	65,6%	74,4%	59,8%	33	22	42,9%	24,8%
Journalism	42,2%	46,7%	20,3%	13	13	18,6%	6,3%
Music	74,6%	54,7%	41,9%	7	2	12,5%	6,2%
Photography	50,0%	48,7%	19,5%	10	3	22,4%	7,4%
Publishing	55,5%	60,6%	31,9%	14	7	18,6%	6,9%

Technology	32,2%	47,4%	30,8%	18	43	16,8%	3,7%
Theater	75,0%	49,7%	23,6%	6	1	24,9%	16,0%

8.2 Appendix 2 - Interviews

Initial approach

Hi [name of the entrepreneur],

My name is Alexandra and I am currently working on my master thesis on crowdfunding, and I'd like to ask you 4 quick questions regarding your activity as project creator inside Kickstarter. Would you be willing to help me?

Standard questions

1. Backing History - I know you usually back projects by other creators. Do you think such actions have impacted the success of your projects?

2. Backing History - I've noticed you back other creators in Design. Do you think there's a sense of community in the category? Do creators support each other by donating money?

3. Creation History - I've noticed you've created more than one successful project. Do you think you have improved your chances of success after your first successful launch?

4. Network Activity - I've noticed you comment frequently your own projects and projects by others. I've also noticed that you post frequent project updates to your campaigns. Do you think such actions have positively impacted the success of your projects?

Farewell note

Thank you for your time and cooperation. Best of luck to all your future endeavors.

Best regards,

Alexandra Mateus