

# Dynamics of Pledge Behavior of Crowdfunded Projects

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## ABSTRACT

This paper aims to provide ways to enhance overall performance of crowdfunding platforms by improving success prospects of projects post-launch. Pledge behavior at the initial stages of project launch is a key indicator of project success. So, this work identifies projects to be promoted on basis of their pledge behavior at such a crucial phase. The time series of pledge amount is analyzed to understand dynamics of funding pattern and to predict a project's chances of successful funding. Statistical analysis was performed on two different datasets of projects launched over crowdfunding platform Kickstarter. The results obtained provide better understanding of the funding pattern of successful and unsuccessful projects. On the basis of behavior pattern, projects are classified as overfunded, funded, potential and low potential. To classify a project, Euclidean distance of the target project with median of the funding pattern of different categories is used to find closest category to which a project belongs. This process is effective and less expensive in terms of computation.

## KEYWORDS

Crowd Funding, Pledge Behavior, Skewed Distribution, Success Prediction, Successful Projects, Time Series Data, Unsuccessful Projects

## INTRODUCTION

Tech media has played an important role in landslide victory of "Aam Aadmi Party" in Delhi Assembly Election 2015. Strong and large network of known/unknown people around the world have pooled their resources such as money and time to support them. The entire expense of this big election campaign was met by crowd funding. Aam Aadmi party launched several fund raising campaigns such as "Selfie with Mufflerman," "Lunch with Arvind Kejriwal," "AAP Ka Daan," "#Mufflerman," "#IFundHonestParty Challenge" on social media just to name a few. As posted on web site of this party on 12<sup>th</sup> February 2015, total amount of donations received was Rs. 18,48,55,660 contributed by 46,365 donors from 40 Indian states/union territories and 73 countries worldwide since November 01, 2014 (AAP, 2015).

This is not the only instance of crowd funding. Indian sportsperson and athletes are also using crowdfunding platforms to raise funds to participate in international events. Recently, Indian IceHockey team raised more than 140% of the fund required for their trip to Kuwait for an international tournament within 8 days through a crowdfunding platform: Bitgiving. Many other athletes such as Sarita Devi, discus thrower Vivek Gowda and shooter Pooja Ghatkar, raised money through crowdfunding (Ganesan, 2015). In recent times, many other creative individuals from all over the world have also been using crowd funding for raising funds for launching their creative ideas.

Crowd funding is about raising funds for a venture from a large group of people via internet. Crowdfunding has become an effective way for generating funds to finance entrepreneurial

ventures, social causes, higher studies, music albums, art work, movies, games, publishing books, school projects etc. (Pandey, 2015). Crowd funding empowers people who find difficulty in arranging funds through traditional sources of financial backing, such as banks or venture capitalists, because of lack of capital or connections (Gerber et al., 2014; Guirado & Castro, 2016). It also helps ventures in spreading awareness and publicizing their work, learning new ways of communication and developing new skills and collaborating with others.

The key components of crowd funding are projects, funders and crowdfunding platforms. A project is created by founder/creator and is launched on a crowdfunding platform. Crowdfunding platform is a mediator between creator and funders which brings them together. Crowd funding platforms helps creator in publicizing their projects and helps funders by simplifying and providing a secure way of making payment. Every project is a well-defined task that has a funding goal and a deadline. If funds are raised within the deadline, then only a project is successful (Wash, 2013).

Recent years have seen rapid growth in crowdfunding industry (Vedantam, 2016). Today, there are more than 1250 active crowd funding platforms across the world (CMF, 2015). Crowd funding platforms raised \$2.7 billion in year 2012 and \$6.1 billion in year 2013. This industry experienced accelerated growth in 2014, expanding by 167 percent to reach \$16.2 billion from \$6.1 billion and it is estimated to grow up to \$34.4 billion in year 2015 (Massolution, 2015).

Some of the well-known crowd funding platforms are Kick-Starter, GoandFund, DonorChoose, IndieGoGo, RocketHub etc. Kickstarter, started in 2009, is a crowd funding web site that supports launch of creative and innovative projects that generally deals in public goods. Public goods are goods for welfare of all. DonorChoose is a well-known site of U.S. that invites projects by teachers for classroom projects and supports to promote education for lower level income group students. IndieGoGo, founded in 2008, helps individuals, businesses and non-profits to raise money online. More than 1.1 million successful crowdfunding campaigns were launched in 2012 on these platforms (CMF, 2015).

Not all campaigns end with a successful funding. According to Crowdfunding Industry Report, average success rate for crowdfunding campaigns in 2012 was around 50% (Massolution, 2013). Gerber et al. (2014) states that 43–47% of projects on Kickstarter are fully funded. As posted on Kickstarter stats webpage, it is observed that success rate over time is continuously on decreasing side and fell down from 40% to 35%. Though, Kickstarter is most popular reward based platform, success rate is not good enough. As posted on Kickstarter web site on April 18, 2016, the overall success rate for projects hosted on Kickstarter is 35.37%. Spot.Us has 43.5% of projects fully funded and almost 70% of projects on DonorChoose are fully funded (Solomon et al., 2015). IndieGoGo's overall success rate is less than 10% (CMF, 2015). Rocket hub has success rate of 11%. These stats show that the situation is not that good and many projects remain unfunded.

In this paper, emphasis is on how the overall success rate of these platforms can be improved. To improve the success rate of crowdfunding platform, this work identifies the projects that are lacking by little amount from its goal and can be pushed to reach their funding goal so as to become successful. If these projects can be identified at an early stage of funding cycle, they can be promoted well in time. This work helps in identifying such projects at an early stage.

This work analyzes characteristics of funding pattern of successful and unsuccessful projects. Understanding the nature of funding behavior of projects helps in evaluating project success. Simple statistical techniques of mean and median are used to analyze the funding behavior and to predict the success of projects. Promising results have been obtained even though the methods applied are very straight forward and uncomplicated.

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