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Crowdfunding a monthly income: an analysis of the membership platform Patreon

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Abstract

Membership platforms allow creators to crowdfund a monthly income, while campaigns on conventional reward crowdfunding portals aim to reach a specified funding target within a pre-set period. We study transaction-level data from Patreon, the biggest membership platform, to gain insights about behavioral patterns at this emerging type of crowdfunding. Our analysis shows that hundreds of creators crowdfund a sizable income (more than $2,500 monthly). We also find that measures of communication quality are determinants of project success, in line with the related literature. Funding dynamics – pledges as well as deletions – are heterogeneous across campaigns. Our analysis suggests that the option to delete the monthly pledge to a creator at any time serves as a feedback mechanism. We conclude that crowdfunding a monthly income offers the creative class a viable alternative to advertising-based business models.

JEL classifications: D90, G23, L26, L82, L86

Keywords: crowdfunding; Patreon; funding dynamics; cultural goods; membership platform

1 Introduction

Crowdfunding emerged over the last decade and established itself as a substantial financing channel for entrepreneurs, artists and social projects. Patreon is the biggest crowdfunding platform that turns the one-off interaction between creator and crowd into a continuous relationship. It facilitates the presentation and communication of past/present/planned content and allows patrons to support creators of all kind (e.g., musicians, visual artists, podcasters, video creators, writers, journalists) with a monthly pledge. The patron can discontinue support at any time.

Our study uses data from Patreon in order to analyze crowdfunding for a monthly income, focusing on projects' success determinants and funding dynamics. Previous research on conventional reward crowdfunding platforms, like Kickstarter or Indiegogo, shows that projects' communication with funders is a key driver of success. For instance, Mollick (2014); Colombo et al. (2015); Crosetto and Regner (2018) find that web site measures like videos, images, blog entries are determinants of project success.[1]

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[1] Related studies also find a positive correlation between project success and the dialogue between fundraisers and pledgers (Beaulieu and Sarker, 2013; Kromidha and Robson, 2016; Allison et al., 2017; Clauss et al., 2018; Wang et al., 2018), project descriptions' language (Frydrych et al., 2016; Yuan et al., 2016; Gafni et al., 2017; Parhankangas and Renko, 2017), or social media usage (Borst et al., 2017).

This evidence suggests that effort put into communicating the project's goal pays off as it is rewarded by the crowd. Studies analyzing the dynamics in reward crowdfunding show herding behavior among the crowd, very early in the funding period (van de Rijt et al., 2014; Colombo et al., 2015) but also later (Crosetto and Regner, 2018).

Our data show that the income distribution at Patreon is very skewed. Hundreds of creators crowdfund a sizable income via Patreon – the top 1% of campaigns make at least $2,500 monthly – while the majority of all campaigns attract only negligible amounts. Our analysis results in similar project-level success determinants as existing research: indicators of communication quality, like an image upload, the length of texts that describe the campaign, its creator or their goals, or a thank you video, are correlated with funding success. Funding dynamics are heterogeneous across campaigns. Some attract pledge boosts – in the beginning as well as later in their life – and others increase their pledge level at a slow and steady rate. Pledge deletions commonly occur only occasionally, but some campaigns experience substantial drops of crowd support.

Our study extends the analysis of reward crowdfunding (see Butticè et al., 2018, for a recent review) to a new, membership-based platform type, crowdfunding for a monthly income. Its results are a stepping stone for a better understanding of a way of funding that can provide a monthly stream of income to creators. This is a relevant issue, because for creators without an established reputation generating revenues from their work is a serious challenge. Crowdfunding may offer an alternative to the standard approach of the Internet era. In the advertising-based business model, the creative class makes their content freely available on platforms like YouTube in return for a share of the revenue from advertisements shown in connection to their content. Online advertising comes with a series of question marks (ad blocking software, privacy regulations, biased content), though, see Peukert (2019) for an overview. Instead, crowdfunding gives creators an opportunity to receive transparent financial support directly from the people enjoying their content – if they convince the crowd of their potential and if they deliver on their promises.

2 Data

The online platform Patreon brings together content creators and people appreciating such content. It facilitates the financial support of creators on a monthly basis. Patreon refers to itself as a membership platform and is considered to be the world's biggest of that type. As of November 2019, creators on Patreon have received over $1 billion from more than $4 million individuals (according to Patreon's blog).

Our dataset consists of all transactions at Patreon from its launch in May 2013 until October 2015. This database dump is publicly available.[2] The data contain information at the following levels: users, campaigns started by users (then referred to as creators), goals set up within a campaign, and pledges made by users (then referred to as patrons) to a campaign.

[2]The data has been leaked online in the course of an unauthorized access to a Patreon database in October 2015. While Patreon acknowledges our use of the data, it cannot guarantee its accuracy. Our use of the data is strictly for scientific purposes, no personal information has been or will be accessed.

For each creator, we know whether an image has been uploaded and a social media account has been linked (Facebook, YouTube or Twitter). In addition, we computed the word counts of what creators wrote about themselves. At the campaign level, we know whether a video, thanks video or thanks message is associated with the campaign and have accordingly created respective dummies. We have also computed word counts of the campaign summary, and the thanks message. For each goal, we know the amount the creator set and we computed the word count of the goal's title and text.

Table 1 provides summary statistics. Approximately three out of four campaign creators upload an image and supply a link to their social media presence. About half of the creators write something about themselves. If they do, the average text of a creator consists of 49 words. Three out of four creators are male (according to the information that 23,840 creators provided about themselves). About 42% of all campaigns provide a video and the average summary of a campaign consists of 157 words. After a pledge is made about 40% of campaigns deliver a thanks message (with, on average, 27 words) and 24% show a thanks video. The majority of campaigns started getting pledges in 2015.

Table 1: Summary statistics

Variable	Unit	Observations	Mean	St.dev.	Minimum	Median	Maximum
Creator-level							
Image	dummy	139,366	.711	.453	0	1	1
About text	dummy	139,366	.464	.498	0	0	1
	words	64,678	49.15	76.19	1	27	2,651
Female	dummy	23,840	.259	.438	0	0	1
Campaign-level							
Social media link	dummy	139,366	.785	.41	0	1	1
Video	dummy	139,366	.421	.493	0	0	1
Summary text	dummy	139,366	.673	.468	0	1	1
	words	93,908	156.89	199.49	1	93	10,732
Thanks text	dummy	139,366	.554	.497	0	1	1
	words	77,237	26.95	28.53	1	21	2,098
Thanks video	dummy	139,366	.241	.427	0	0	1
Year	integer	24,257	2014.87	.361	2013	2015	2015
Goal-level							
Amount	$	188,128	934.74	3,070.292	1	200	78,000
Title	words	188,128	4.44	3.94	0	3	59
Text	words	188,128	28.86	34.25	0	23	7,322
Reached	dummy	188,128	.0816	.274	0	0	1
Pledge-level							
Amount	$	959,909	11.18	51.12	0.01	5	25,000

Creators associated 188,128 goals with their campaigns. On average, they set 2.38 goals (minimum 1, median 1, maximum 60). Excluding outliers[3], the average goal is $934.74 (minimum 1, median 200, maximum 78,000). The average goal has a title of four and comes with a text description of 29 words. Overall, there are 959,909 pledges. For each pledge, we know its size, which patron made it and which campaign received it. We also know the timestamp of the pledge's start and – if applicable – the timestamp of its deletion. This allows us to aggregate pledges over time, by the patron who made them as well as by the campaign that received them. The average pledge is for $11.18 (minimum 0.01, median 5, maximum 25,000) per month.

[3]Some campaigns set very high goals. We decided to exclude them from the dataset in order to reduce bias. Thus, we dropped 1,211 goals that exceed $80,000.

3 Results

3.1 Descriptive Analysis

Most of the registered campaigns (115,183 out of 139,366) did not receive any pledges. The 24,257 campaigns getting pledges received, on average, 39.57 (minimum 1, median 5, maximum 27,547). Around 20% of all those "active" campaigns (4,930) received one pledge, around a third got two pledges. A campaign's average monthly peak pledge volume is $197.88, with the median being $31. Only 25% of the active campaigns get more than $120, 5% make more than $750 monthly and 1% more than $2,500. Thus, most campaigns either do not get any pledges at all or they receive only negligible amounts. Nevertheless, the top 5%, about 1,200 creators, receive a substantial income and around 250 creators (the top 1%) are funded to an extent that can be considered an income sufficient for making a living.

The majority of all campaigns (79,724) set at least one goal. As 20,110 of them received pledges it seems that goal setting is conducive to funding success. However, it is not a must: 4,147 creators who did not associate a goal with their campaign received pledges. On average, creators set 2.31 goals (minimum 1, median 1, maximum 60). Looking at the top 5% of creators with respect to funding received, for a quarter of them the monthly pledge level exceeds the maximum goal they have set. While goals surely provide some orientation about the financial needs/targets of creators, the crowd seems to continue providing support even beyond the goal.

Overall, 473,394 patrons pledged. The median patron pledged once, the average patron pledged twice and the highest amount of pledges by one patron is 1,074. The average patron spent $23 on their monthly pledges.

3.2 Success determinants

In contrast to conventional reward crowdfunding which features a funding target, it is not straightforward what actually constitutes the success of a Patreon campaign. Our analysis therefore employs a set of success proxies. The most basic one is whether a campaign attracted any pledges. Moreover, we consider the maximum monthly amount pledged to a campaign over its duration. Our empirical approach connects these two measures in a Heckman sample selection model with robust standard errors. Table 2 presents regression results. The explanatory variables in the selection equation (column 1) are dummies for an image, the about text, a social media link, the summary text, a video, the thanks text/video, whether at least one goal has been set, and dummies for the creator being male/female. In addition, the amount equation (column 2) employs the number of goals set, the average goal amount and text, and a control for the year the campaign started to get pledges. Its dependent variable is the logarithm of the peak pledged amount.

Results show that all our proxies of communication quality are highly correlated to whether a campaign managed to attract any pledges at all. Similarly, the peak pledge level of a campaign is correlated to whether an image is associated, the length of the about/summary/thanks/goal text, and whether a thank you video exists. While female creators seem to be more successful in attracting any pledges at

Table 2: Determinants of campaign success

	1: any pledges		2: pledged amount		3: goal reached	
Image	0.57***	(0.018)	0.33**	(0.15)	0.037***	(0.0023)
About	0.32***	(0.010)	0.14***	(0.053)	0.0014	(0.0013)
Social media link	0.49***	(0.029)	0.27	(0.23)	0.011***	(0.0023)
Video	0.047***	(0.011)	0.0044	(0.081)	-0.0014	(0.0023)
Summary	0.63***	(0.018)	0.29***	(0.043)	0.034***	(0.0012)
Thanks text	0.45***	(0.013)	0.17**	(0.066)	0.018***	(0.0016)
Thanks video	0.28***	(0.012)	0.20**	(0.091)	0.025***	(0.0025)
Goal exists	0.18***	(0.012)				
Number of goals			-0.021**	(0.011)		
Goal amount			-1.9e-10*	(1.1e-10)	-1.1e-11***	(2.1e-12)
Goal text			0.17***	(0.051)	-0.013***	(0.0015)
Female	0.18***	(0.019)	0.36	(0.25)	0.0024	(0.0046)
Male	-0.0096	(0.014)	0.16	(0.12)	-0.0058**	(0.0029)
Year			0.14*	(0.072)		
Constant	-3.12***	(0.033)	-272.3*	(145.9)	-0.043***	(0.0023)
$\rho = 0.63$ ***						
Observations	139,366		24,257		189,210	

Notes: The first two columns report results from a Heckman sample selection model using a binary variable (did the campaign receive any pledges) as the dependent variable for the selection equation, and the logarithm of the pledged amount for the second equation. The last column presents results of a panel regression using a linear probability model with the dummy Goal Reached as dependent variable. The variables About, Summary and Thank you text are dummies in column 1, and logarithms of the word count in columns 2 and 3. Standard errors in parentheses; significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

all, there is apparently no gender difference in the pledged amount. The pledged amount is negatively correlated (at the 5%-level) with the number of goals. The correlation of the error terms ($\rho = 0.63$) is significant at the 1%-level, justifying the sample selection approach.

Finally, our analysis considers a subjective success measure, taking the perspective of the creator: whether a goal has been reached. Table 2, last column, presents results of a panel regression using all goals, controlling for creator heterogeneity. The specification is a linear probability model with robust standard errors. In addition to the explanatory variables familiar from the previous regressions, we use the goal's amount and the word count of the goal's text as regressors.

Whether a goal has been reached is highly positively correlated with an image upload, a social media link, the length of the summary/thanks/goal text, and the thank you video. The goal's amount is a negative determinant. The dummy for male creators is negative and significant at the 5%-level.

3.3 Dynamics of pledges and deletions

Pledges at Patreon are recurring on a monthly basis and patrons can cancel them at any time. This feature distinguishes Patreon from other reward crowdfunding platforms on which campaigns run for a pre-set period (usually not more than a month or two). These differences – no campaign deadline and the possibility to cancel the monthly pledge – will be the focus of our analysis of dynamics.

Overall, about 29% of all pledges have been stopped. One out of four pledge deletions takes place within the same day and one out of two during the first month. In order to get a first glimpse of the dynamics during campaigns we relate the campaign's monthly amount of pledges to the maximum

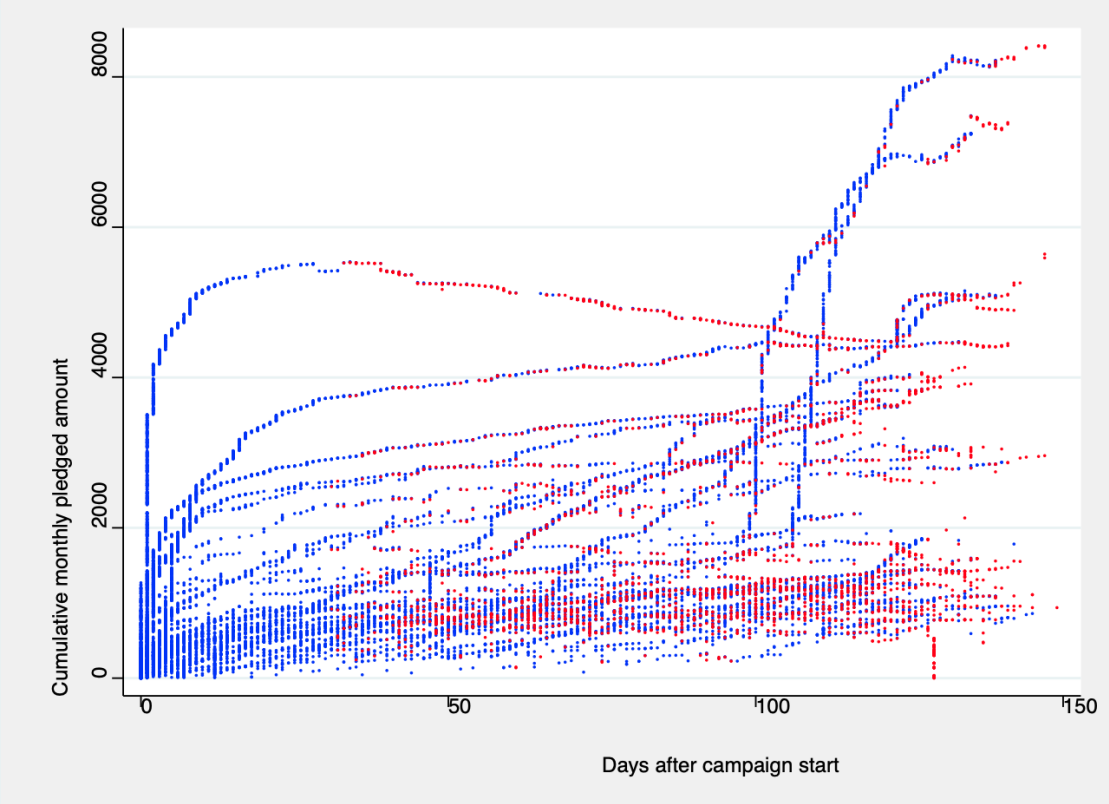


Figure 1: Cumulative monthly amount pledged over time (pledges in blue and deletions in red)

monthly pledge level. For this purpose, we use the end of our dataset, considering the timing of the cutoff as random, in order to analyze how far, or close, campaigns tend to be off their peak pledge level. At the time our dataset ends, the median of the ratio to peak is 1 and the average 0.9. Three out of four campaigns are within 5% of their peak level, 90% are within a third of the peak. On average, this patterns holds across the distribution of a campaign's peak pledge level. Campaigns in the bottom half of the income distribution suffer from a similar average rate of cancellations as campaigns in the top half or the top 5% earning campaigns.

We proceed to analyze pledges and their deletions over time. Figure 1 shows scatter plots of the cumulative monthly amount pledged to a campaign. In order to optimize visualization we focus on a sub-set of campaigns. We limit the peak pledge level to the top 5% (more than $750) and the length of campaigns to the interval of 120 to 150 days. This results in 61 campaigns. Pledges are shown in blue, while deletions appear in red.

The plot indicates sharp increases of the cumulative pledged amount, in the beginning of campaigns but as well at later points of time. This in line with existing evidence from conventional reward crowdfunding sites (van de Rijt et al., 2014; Colombo et al., 2015; Crosetto and Regner, 2018). Besides the pledge boosts, several campaigns also increase their pledge level at a fairly steady pace, moving along a somewhat linear trajectory. The dynamics of deletions are also quite heterogeneous. One campaign passed the level of $5,000 in monthly pledges within its first ten days, peaked after one month of its launch, and then gradually lost patrons during the following year (for a total decrease of about 20% off its peak). Another campaign suffered a sharp drop of its pledges at around day 130 and essentially

discontinued. However, most of the campaigns receive only occasional pledge cancellations. They tend to get more new pledges than deletions.

These behavioral patterns suggest that the crowd reacts to the creators' work. Sharp or gradual decreases of crowd support are likely to be rooted in a (partly) failure of the creator to deliver the content promised at the outset of the campaign. Thus, the possibility to cancel the monthly pledge can be seen as a feedback system. Patrons have a way to stop support at any time, if they feel the creator failed to deliver or provided only disappointing content. An important caveat is that our analysis does not allow us to causally connect deletions to a lack of content delivery. Another potential motivation for pledge deletions can be on the patrons' side. They may not be able to afford their pledges any more, or have set a certain budget to support creators at the platform and decide to shift their pledge to someone they like more. Such patron-driven motivations to cancel pledges would tend to be evenly distributed across campaigns, though.

4 Conclusions

Our study provides a starting step analysis of crowdfunding for a monthly income, based on data from Patreon, the biggest platform of that kind. We find that the top 1% of creators (about 250) crowdfund a monthly income of at least $2,500. The top 5%, or about 1,200 creators, receive more than $750 monthly. Thus, a substantial number of creators receive a steady revenue stream via Patreon, presumably big enough to focus their time and energy, at least partly, on their creative work. As Patreon reports creator revenues of $150 million in 2017, 1.5 times more than in its first 3.5 years of business (Church, 2017), these numbers have likely increased significantly by now.

Overall, our data suggest that identifying quality content functions well at Patreon. The entry barriers to start a campaign at the platform are negligible (i.e., merely setting up an account). The lack of basic features of a serious campaign (creator image, descriptions) indicates that many would-be creators just try whether they can somehow attract pledges, or rather donations. However, our analysis shows that the crowd tends to support campaigns that communicate why they deserve to get funded. Finally, the funding dynamics indicate a substantial amount of deletions at some campaigns. The option to delete the monthly pledge to a creator at any time can be regarded as a feedback mechanism. Creators' promises, as laid out in the campaign's description, seem to have to be kept. If not, patrons stop support by canceling their pledge.

Our analysis of success determinants at the membership platform Patreon is consistent with results from conventional reward crowdfunding portals (e.g., Mollick, 2014; Colombo et al., 2015; Crosetto and Regner, 2018). We find that measures of communication quality, like an image upload, the text length of content provided about the campaign, its creator or goals, or a thank you video, are correlated with funding success. A more in-depth analysis of the campaigns' content promises to be an intriguing path for future research. This includes the textual features of creators' content connected to their campaigns as well as the effect of creators' activities (e.g., the upload of a new video) on the funding dynamics.

How to generate revenues from their work is a serious challenge for creators, especially in the era

of the Internet. For emerging creators, those without an established reputation, the standard approach is to make content available for free on advertising-based platforms. However, as argued by Peukert (2019), the repercussions of the ad-based business model on the provision of cultural goods are not well explored yet. Generally, there is a lot of uncertainty about the actual returns to online advertising (Lewis and Rao, 2015; Gordon et al., 2019). Moreover, the use of ad blocking tools can undermine generated revenues (Shiller et al., 2018). Concerns about consumer privacy may lead to regulation that restricts the use of data (Acquisti et al., 2016; Greenstein et al., 2016). Finally, provided content may be biased towards more popular topics in order to increase ad revenue (Sun and Zhu, 2013).

The crowdfunding model seems to offer a viable alternative to the creative class, one that allows a more direct interaction between creator and crowd. Given that in a related industry, media, the duality of revenue streams from advertising as well as subscriptions is well-established, it might be complementary for creators to pursue both approaches.

A crowdfunded income via a membership platform like Patreon can be regarded as a crowd-based implementation of a subscription service, albeit at an individual level. The crowd provides a monthly stream of funds to creators who it deems worthy of support and it continues to do so – presumably – as long as the creator delivers what the crowd expects. A further avenue for future research will be to study whether the existing platform design provides sufficient checks and balances to motivate the creation of quality content and to discourage opportunism.

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