Impact of Subscription-based Crowdfunding on Creators' Online Channels: Evidence from YouTube

Emergent Research Forum (ERF)

Onochie Fan-Osuala
University of Wisconsin, Whitewater,
Wisconsin,USA
fanosuao@uww.edu

Abstract

The introduction of subscription-based crowdfunding has created an additional stream for online content creators to fund their content production, build a community, and grow their revenue. In this paper, we investigate the impact of subscription-based crowdfunding adoption on content creators' online channel performance. Using a unique and near homogenous data set of YouTube channels focused on "sailing", and exploiting a quasi-natural experiment set-up, we show that subscription-based crowdfunding adoption results in an increase in channel performance in terms of registered new subscribers and views. We discuss the implications.

Keywords

crowdfunding, subscription, content creator, online content, online media channel

Introduction

As online crowdfunding continues to mature, indie content creators have begun adopting the subscription-based crowdfunding model as a way to grow a dedicated community, fund content production, and grow revenues (Patreon 2019; Tate 2013). The subscription–based crowdfunding model allows these content creators solicit funds from the crowd on an on-going basis. Funders in the subscription-model crowdfunding typically pledge to support creators per creative output or a certain number of times per month. They can also unlock certain content features or benefits by subscribing to fund the creators. On the surface, subscription-based crowdfunding can be likened to a recurring tip jar with some form of paywall hosting (Wilson 2017). According to Patreon (2019), subscription-based crowdfunding promises a more predictable and regular revenue to creators and is different from the typical one-off crowdfunding model. With its rising popularity, one-off crowdfunding model platforms like Kickstarter have begun spinning off alternative platforms that support the subscription-based model of crowdfunding.

Despite the growing popularity of subscription-based crowdfunding among indie content creators (Tate 2013), little has been done to understand how its adoption affects creators. It is not clear if adopting and integrating subscription-based crowdfunding tools into a creator's online channel positively or negatively impacts the creator's channel's performance. Prior research has shown that the introduction of some form of paid subscription or pay-for-content on online content channels like news sites can have negative (Chiou and Tucker 2013) or mixed effects (Kim et al. 2018) on site performance. There are plausible reasons to expect that the adoption of the subscription-based crowdfunding model on a creators channel will have a positive effect. Existing literature suggests that paying for products or services can affect the way an individual uses the product or service, as she will try to extract value from such payments made (Adams 1965; Bapna et al. 2016). Funders who subscribe to fund a creator's channel on an on-going basis may thus want to maximize value from their funds by consuming their money's worth of content posted on the channel. Further, because these online channels employ various social features including sharing buttons (Parameswaran and Whinston 2007), friends can easily share a creator's channel and through peer influence cause other friends to subscribe and/or view content on the creator's channel.

On the other hand, it is also plausible that the integration of subscription-based crowdfunding could have negative effects because consumers are less willing to pay for the online content (Pattabhiramaiah et al. 2017), especially if they were previously free (Crosbie 2002) or require subscription to unlock interesting content features. Additionally, consumers may rather seek out alternative channels with similar content or simply stop accessing the online channel altogether (Cook and Atari, 2012, Crosbie, 2002). Therefore, the overall effect of subscription-based crowdfunding model adoption and integration into a creator's channel raises an empirical question.

In this paper, we investigate the adoption of the subscription-based crowdfunding model into a content creator's online channel. Specifically, we ask if the adoption of subscription-based crowdfunding affects a content creator's online channel performance and how, if it does. Given that a significant amount of the subscription-based crowdfunding adopters are YouTubers (CrowdCrux 2019) and that YouTube remains one of the biggest platforms for publishing video content (Patel 2017), we focus on creators' YouTube channel performance in terms of subscribers (fan-base) and views (a surrogate for advertising revenue).

To examine this question, we use a unique set of data extracted from sailing-channels.com, a website that curates YouTube channels focused on sailing. Our data allows us to compare a near homogenous set of YouTube channels and to exploit a quasi-natural experimental setup to empirically identify the effect of adopting the subscription-based crowdfunding model on a creator's channel. We find that the adoption of subscription-based crowdfunding is associated with a higher number of subscribers and views.

Related literature

Our work relates to several streams of literature. First, it builds on the growing literature on crowdfunding and some of its potential benefits to creators. Second, it complements the extant work investigating the impact of subscription-based models including "paywalls" on online digital content channels. We discuss them here.

Online Crowdfunding

Online crowdfunding has proven to be valuable to creators, especially those in areas like arts where funding may be harder to secure. A significant amount of past research have highlighted several benefits of online crowdfunding to creators. Kuppuswamy and Roth (2016) documents that in addition to finances, crowdfunding provides such benefits as publicity, access to external funding, and more business to creators. Skirnevskiy et al. (2017) suggests that by crowdfunding, creators can build social capital which may prove very valuable. Mollick (2016) document that in addition to funding, the value of crowdfunding may be in the community it builds around the creator's product. Further, Viotto da Cruz (2018) and Xu (2018) find that crowdfunding acts as a source for information. They show that creators derive explicit and implicit informational cues, which benefit them in launching their products.

In these works, we observe that by crowdfunding, creators can gain additional value beyond the finances. However, the benefits highlighted in the above studies are drawn from investigating the one-off crowdfunding model where crowdfunding campaigns have a duration (start-date and end-date), and often have due dates on which products will be delivered. We do not know if they value derived stops at the end of the campaign and after funders have received the products which they crowdfunded. This leaves a gap on what is known about the effect of the subscription-based crowdfunding model were creators do not offer one-off creative outputs from a crowdfunding campaign but are crowdfunding to have a steady stream of creative outputs. While this paper aims to fill this gap, it also makes an empirical comparison between creators who engage in crowdfunding and those who do not.

Subscription and Online Content

Our work is related to studies investigating the impact of pay-for-content or subscription model on online digital content websites. Many online content sites adopt the pay-for-content or subscription-based model or as a way to boost their bottom-line (Prasad et al. 2003). However, this may come at the risk of losing readership and site visits. Chiou and Tucker (2013) and Pattabhiramaiah et al. (2017) show the negative effects of the subscription-based model on online news websites. They find that it leads to lower readership, less site visits, lower site engagement. In their survey study, Cook and Attari (2012) report

that individuals visited the New York Times online new web site less after the introduction of paywalls. These studies attribute these negative impact of the subscription-based model on online content website performance metrics to low consumer willingness to pay for online content (Pattabhiramaiah et al. 2017) or reactance to paying for something that was previously free (Cook and Attari 2012). Further, these studies focus on the effect of a fixed-rate type of subscription rather than a pay-what-you-have type of subscription as it is with the subscription-based crowdfunding model.

Scholars have shown that people's willingness to pay for content can be increased when they perceive that paying for such content is fair (Cook and Attari 2012; Wang et al. 2005). By using a subscription-based crowdfunding model instead of outright paying-for-content or subscription, creators signal to consumers the need for support while appealing to peoples' perception of fairness. Because subscription-based crowdfunding involves paying what you can, consumers may thus see subscribing to fund the creator's creative output as a way to support the content creator rather than paying for content. Hence, funders may be more willing to subscribe to a recurring donation process in order to keep the creators production alive. Additionally, funders can become champions of the creator's online channel driving new subscribers to the creator's channel and increasing viewership. In this regard, we view the adoption of subscription-based crowdfunding as driving positive effects on channel.

Data and Methodology

We collected data from sailing-channels.com, a website that curates YouTube sailing channels, over a period of 9 months starting on April 20th, 2018. The data were collected for 17 observation points in time, each 2 weeks apart to create a panel of data. Our data consist of YouTube channels launched before the date in which we started the data collection process. To understand the effect of adopting the subscription-based crowdfunding model on channel performance, we focus on active YouTube channels who uploaded at least one new video during the period of data collection. Our data consists of 330 YouTube sailing channels, with 115 of the channels adopting the subscription-based crowdfunding model at various times before and during the period of data collection. We exploit this exogenous variation in the time of adoption of the subscription-based crowdfunding model by creators in our analysis.

Measures

Dependent variable:

Because we are interested in the impact of the subscription based crowdfunding model on YouTube channel performance metrics, our performance metrics are the number of new subscribers to the YouTube channel and the number of views the channel receives. However, we use the logarithm of these metrics in our analysis because of their skewed nature.

Independent variable:

Our main independent variable is subscription-based crowdfunding adoption (*SubCF*). It is a binary variable that takes the value 1 if the creator has adopted subscription-based crowdfunding in a specific period and 0 if she has not.

Control variables:

Several variables are included in our analysis to account for factors that vary within each channel and may drive the number of subscribers or views a YouTube channel receives. They include the prior number of subscribers (*PriorNumSub*), prior number of videos on the channel (*PriorNumVid*), prior number of views (*PriorNumView*), Length of words in the Title (*TitleLen*), Length of words in the description (*DescLen*), Instagram integration (*Insta*), Facebook integration (*FB*), and Twitter integration (*Twit*).

We use the age of the channel as a weighting factor in our analysis. The descriptive statistics of the variables are available upon request.

Estimation Approach

We rely on the difference-in-difference (DID) technique to test the effect of subscription-based crowdfunding adoption. This identification strategy has been implemented in several extant studies information systems studies including Chan and Ghose (2013) and Xu et al. (2016). DID mimics an experimental research design using observational data. It allows us to treat YouTube channels that have adopted the subscription-based crowdfunding model over a given period as a treatment group and those that have not as the control group. Hence, we can contrast the treatment effects across the two groups on our outcomes of interest – subscribers and views. Our main estimating equation is of the form:

$$Log(Outcome_{ct}) = A_c + B_t + m.R_{ct} + n.S_{ct} + e_{ct}$$

where *c* indexes channels and *t* indexes time; $Outcome_{ct}$ is the log of the number of new subscribers and views received by channel *c* at time *t*. A_c is a vector of 330 channel fixed effects; B_t is a vector of time fixed effects; R_{ct} is a vector of control variables; S_{ct} is the binary indicator for subscription-based crowdfunding adoption, that is S_{ct} = 1 if the channel has adopted subscription-based crowdfunding in a particular time period *t*. The co-efficient *n* is the DID estimate of the effect of subscription-based crowdfunding adoption on channel performance. To assess the robustness of the results and to account for potential endogeneity concerns about channels adopting subscription-based crowdfunding and those not adopting it, we weighted our regressions by the age of the channel and implemented Poisson regressions to account for the count nature of new subscribers and views. We report the results in Table 1.

Preliminary Results and Conclusions

Results from our preliminary analysis in Table 1 show that the adoption of subscription-based crowdfunding increases a channels subscriber base and the number of views received. In essence, we observe that channels whose creators adopted subscription-based crowdfunding registered more subscribers and views than those whose creators did not adopt.

	DV: Channel Subscribers			DV: Channel Views		
	OLS		Poisson	OLS		Poisson
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
SubCF	0.729*** (0.378)	0.516** (0.209)	0.524*** (0.009)	0.787*** (0.329)	0.909*** (0.218)	0.240*** (0.001)
Controls Included	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.068	0.074	-	0.067	0.073	-
Log-likelihood	-	-	-2.4×10^5	-	-	-4.4×10^7
Weighted by channel age	-	Yes	-	-	Yes	-
Note: ***p<0.01; **p<0.05; *p<0.1, Standard errors in bracket						

Table 1. Results of Preliminary Analysis

This work-in-progress offers some insights on subscription-based crowdfunding, a new form of crowdfunding. Also, it contributes to several streams of literature while providing some practical implications. First, it adds to the growing literature of crowdfunding by exploring the impact of subscription-based crowdfunding on creators' online channels. We find evidence suggesting that adopting the subscription-based crowdfunding model benefits creators' online channel in terms of number of subscribers gained and views rather than hurting. Practically, our finding suggests that creators can engage in subscription-based crowdfunding as a way to not only boost income but also to increase their online channel performance. Second, it contributes to the literature on subscription or pay-for-content by

showing that by using subscription-based crowdfunding, a pay-what-you-have type of subscription, online content providers may benefit from improved site performance.

Although this work takes the creators' perspective by looking at the impact of subscription-based crowdfunding adoption on their online channel, we intend to also investigate from the funders perspective to see if they benefit in terms of the volume and quality of creative content produced after creators adopt the subscription-based crowdfunding model.

References

Adams, J. S. 1965. "Inequity in Social Exchange," in *Advances in Experimental Social Psychology*. Elsevier, pp. 267-299.

Bapna, R., Ramaprasad, J., and Umyarov, A. 2016. "Monetizing Freemium Communities: Does Paying for Premium Increase Social Engagement?,").

Chan, J., and Ghose, A. 2013. "Internet's Dirty Secret: Assessing the Impact of Online Intermediaries on Hiv Transmission," *MIS Quarterly* (38:4), pp. 955-976.

Chiou, L., and Tucker, C. 2013. "Paywalls and the Demand for News," *Information Economics and Policy* (25:2), pp. 61-69.

Cook, J. E., and Attari, S. Z. 2012. "Paying for What Was Free: Lessons from the New York Times Paywall," *Cyberpsychology, behavior, and social networking* (15:12), pp. 682-687.

Crosbie, V. 2002. "Online Content: The 2002 Report." Retrieved February 3, 2019, from https://www.clickz.com/online-content-the-2002-report/76405/

CrowdCrux. 2019. "Patreon-Statistics-and-Demographics-Average-Patreon-Earnings." Retrieved February 2, 2019, from https://www.crowdcrux.com/patreon-statistics-and-demographics-average-patreon-earnings/

Kim, H., Song, R., and Kim, Y. 2018. "Free-to-Paid Transition of Newspapers: How to Manage the Negative Impact of Online Paywalls on Web Traffic,").

Kuppuswammy, V., and Roth, K. 2016. "Research on the Current State of Crowdfunding: The Effect of Crowdfunding Performance and Outside Capital," *US Small Business Administration Office of Advocacy White Paper*).

Mollick, E. 2016. "The Unique Value of Crowdfunding Is Not Money — It's Community," *Havard Business Review* (Online).

Parameswaran, M., and Whinston, A. B. 2007. "Research Issues in Social Computing," *Journal of the Association for Information Systems* (8:6), p. 22.

Patel, S. 2017. "'It's Still Youtube': Video Publishers Talk About Revenue Potential on Platform." Retrieved February 16, 2019, from https://digiday.com/media/youtube-video-publishers-revenue-dvas/

Patreon. 2019. "Patreon Powers Membership Businesses for Creators." Retrieved January 31,, 2019, from https://www.patreon.com/

Pattabhiramaiah, A., Sriram, S., and Manchanda, P. 2017. "Paywalls: Monetizing Online Content," *Journal of Marketing*), p. 0022242918815163.

Prasad, A., Mahajan, V., and Bronnenberg, B. 2003. "Advertising Versus Pay-Per-View in Electronic Media," *International Journal of Research in Marketing* (20:1), pp. 13-30.

Skirnevskiy, V., Bendig, D., and Brettel, M. 2017. "The Influence of Internal Social Capital on Serial Creators' Success in Crowdfunding," *Entrepreneurship Theory and Practice* (41:2), pp. 209-236.

Susarla, A., Oh, J.-H., and Tan, Y. 2012. "Social Networks and the Diffusion of User-Generated Content: Evidence from Youtube," *Information Systems Research* (23:1), pp. 23-41.

Tate, R. 2013. "The Next Big Thing You Missed: 'Eternal Kickstarter' Reinvents Indie Art." www.wired.com.

Viotto da Cruz, J. 2018. "Beyond Financing: Crowdfunding as an Informational Mechanism," *Journal of Business Venturing* (33:3), pp. 371-393.

Wang, C. L., Zhang, Y., Ye, L. R., and Nguyen, D.-D. 2005. "Subscription to Fee-Based Online Services: What Makes Consumer Pay for Online Content?," *Journal of Electronic Commerce Research* (6:4), p. 304.

Wilson, L. 2017. "A Little Bit of Money Goes a Long Way: Crowdfunding on Patreon by Youtube Sailing Channels,").

Xu, K., Chan, J., Ghose, A., and Han, S. P. 2016. "Battle of the Channels: The Impact of Tablets on Digital Commerce," *Management Science* (63:5), pp. 1469-1492.

Xu, T. 2018. "Learning from the Crowd: The Feedback Value of Crowdfunding," *Available at SSRN 2637699*).