How did the COVID-19 crisis change the social media peer-to-peer fundraising landscape?

Beatrice Martin
WHU - Otto Beisheim School of Management
Christian Schlereth
WHU - Otto Beisheim School of Management

Cite as:
Martin Beatrice, Schlereth Christian (2021), How did the COVID-19 crisis change the social media peer-to-peer fundraising landscape?. *Proceedings of the European Marketing Academy*, 50th, (93727)

Paper from the 50th Annual EMAC Conference, Madrid, May 25-28, 2021

How did the COVID-19 crisis change the social media peer-to-peer fundraising landscape?

Abstract:

Non-profit organizations (NPOs) often rely on the success of their fundraising activities for funding. Previous research indicates that a crisis with a severe negative economic impact substantially harms donations. In this research, we study the COVID-19 crisis's impact on a new, digital fundraising channel: social media peer-to-peer fundraising. This channel enables any social media user to raise funds for an NPO through their personal network. The channel thus substantially extends an NPO's reach. In contrast to past crisis research findings, we observe a positive fundraising spike of +530% in the first month of the COVID-19 crisis, which receded only partially. Hence, we study what drove this shift and whether all NPOs benefited equally. Our research shows for this channel that during a crisis, an NPO's size and its cause matters to fundraiser initiators.

Keywords: Social Media, Non-Profit, COVID-19

Track: Public Sector and Non-Profit Marketing

1 Introduction

Facebook recently launched a new fundraising channel that allows NPOs (non-profit organizations) to conduct social media peer-to-peer (p2p) fundraising and other fundraising schemes directly on the Facebook platform. Thus, registered NPOs no longer have to rely only on their network for donor acquisition but can leverage other users' networks. Facebook p2p fundraisers have the potential to become a strong multiplicator for NPOs. About 70% of the revenue of NPOs comes from individual donations (Dehling, 2015). Consequently, a new channel in this sector is of utmost importance to fundraising professionals.

While traditional p2p fundraisers are not new, the channel did not have such a large potential in the past, when not supported through social media. It used to be limited to people placing a shoebox for donations at a birthday party entrance. The social ties created by social media may prove ideally suited to be exploited through p2p fundraising. This could turn social media p2p fundraising into an incredibly powerful fundraising channel for NPOs.

In 2019 39% of European donors indicated that they were motivated to donate by social media posts. In Germany, the focal market of this study, 76% of the top 100 NPOs used Facebook as a communication tool in 2019 (Nonprofit Tech for Good, 2020). The newness of social media fundraising means close to zero academic insights on this channel's mechanisms, a gap we aim to fill with this paper.

This new online channel is of particular interest in light of the current COVID-19 crisis. Previous research emphasized that NPOs are vulnerable in times of crisis (Lin & Wang, 2016). A crisis, which enforces restrictions on interpersonal contact, supply interruptions, and other chain reactions, potentially limits the success of traditional fundraising activities. Thus, the new digital channel under study may become an attractive complement to traditional fundraising efforts. Nevertheless, the principle that in times of a crisis, more and more people depend on the programs of NPOs, but fewer people have funds they can spare to donate, should also apply to this new channel (Besel, Williams, & Klak, 2011). Thus, professional fundraisers working for NPOs need to know how this new tool performs during external crises. On 20th of March 2020, a report released in the UK portrayed the fear of NPOs of the crisis's impact on the private sector's income (Whitehead, 2020).

The COVID-19 crisis is the first crisis since the 2008-2009 financial crisis that may impact every industry, including non-profits. Thus, its consequences are unlikely to be limited

to one cause, like environmental protection. We are the first to analyze the social media p2p fundraising landscape before the COVID-19 crisis and then quantify the crisis's impact on this new channel. Then we study what factors may be the drivers of the changes and give counsel to non-profits on how to prepare for similar changes in the future.

We test theories created for other fundraising channels to see whether they hold for this new one. Past literature only investigated the impact of a crisis across all fundraising channels and did not dissect how a specific channel fared. Our research supports NPOs who need to optimize their fundraising programs to maximize donations. In crises where donations probability may decrease, this is of particular importance.

2 Relevance of social media peer-to-peer fundraising for NPOs

Platform operators, like Facebook, do not publicly reveal information about the use of social media p2p fundraising. In a survey by Nonprofit Tech for Good (2020), 34% of European donors indicated in 2019 that the motivation for their donation came from social media, which implies that social media overtook emails and postal communication as the tool with the most inspirational power. Facebook is the current leader in social media fundraising. 92% of European NPOs use Facebook, while only 68% use the 2nd most popular tool: Twitter (Good, 2019). According to Nonprofit Tech for Good (2020) already 44% of the respondents in a European survey donated through Facebook's giving tools in 2019, a sharp increase compared to 2018 when only 16% of respondents donated. Following these successes, Facebook is launching donation tools on its Instagram platform, and we can expect other operators, such as Google (Youtube) or Twitter, to follow soon.

One success factor of Facebook's giving tools is the ease in implementing them for NPOs. With one click, "Activate Facebook fundraisers," any NPO registered on Facebook[1] enables users to create fundraisers for its benefit. It is equally easy for a private user to create a fundraiser for the NPO of their choice. They only have to click on the button "create a fundraiser" on any NPOs page, and then Facebook directly proposes a finished form. When a user's birthday approaches, Facebook notifies them that they can create a "birthday fundraiser" and recommends NPOs that fit with the user's activities.

[1] Provided its page is registered in a country were the Facebook giving tools are available. As of September 2020, they are fully available in 43 countries.

The data available so far is all survey-based. Neither Facebook nor any other platform discloses information on the donations collected nor the number of fundraisers or donors. However, they list all fundraisers that attract donations of at least $50 on the NPO's page. We use this public information for the top 100 German NPOs to approximate how social media p2p fundraisers performed during the COVID-19 crisis and examine underlying drivers.

3 Theoretical Framework

We are not aware of any research, which focuses on social media p2p fundraising, and thus we turn our attention to the literature stream on charitable giving. Marketing scientists have focused on how different marketing strategies, like the effectiveness of emotional charity appeals, may impact donations, and sociology and psychology scholars provide in-depth analyses of donor motivations (Choi, Li, Rangan, Yin, & Singh, 2020). Some papers focus on a donor-centric view, while others involve a society-based view (Haruvy et al., 2020; Haruvy & Popkowski Leszczyc, 2009).

3.1 P2P fundraising vs. classical fundraising

Social crowdfunding campaigns live on the power of word of mouth. If word of mouth were not a strong driver for collecting money, social crowdfunding would not enjoy its immense success. "From the perspective of social capital, structural and relational dimensions formed through the circulation of crowdfunding information are important determinants" (Robiady, Windasari, & Nita, 2020). This ties in with research on donation motivations that find that donations are not made with a purely altruistic motive in many cases. Instead, donors want to gain something in return, for example, emotional satisfaction (Wang & Tong, 2015), public recognition (Berman, Levine, Barasch, & Small, 2015), prestige (Harbaugh, 1998), or acceptance into a social group (Deb, Gazzale, & Kotchen, 2014). These egoistic donation motivations, termed warm glow motivations in the literature (Andreoni & Payne, 2013), probably apply for donations in social media p2p fundraisers, too. People are much more likely to donate if they are asked: "social ties play a strong causal role in the decision to donate and the average gift size" (Meer, 2011).

In p2p solicitation, where past donors are asked to recruit new donors, the challenge lies in activating these past donors (Castillo, Petrie, & Wardell, 2014). This activation procedure seems particularly difficult online where the "ask" is less powerful (Castillo et al., 2014). NPOs may encounter the same difficulty in recruiting social media p2p fundraising

initiators. Thus understanding the drivers behind social media p2p fundraising might be the key to allow NPOs to turn this channel into a success.

3.2 Donation in times of crisis

Research on the impact of crises on NPOs addressed mostly the financial crisis in 2008. Reductions in personal income decrease donations, strongly negatively impacting the NPO (Morreale, 2011). If the economy is growing, then fundraising is usually more successful. Donations tend to be a lagging indicator that decline after the recession has already hit its peak (Lin & Wang, 2016). In the UK, charitable giving fell by 11% between 2007 – 2009 and 6% in the US (Organisations & Foundation, 2009). Our research aims to examine whether such findings also hold for the new digital fundraising channel under study.

Using data from the United States, Lin and Wang (2016) found that fundraising in crisis times becomes difficult unless there is a strong preexisting relationship with the donor. Social media p2p fundraising might not be as reactive to exogenous shocks as classical fundraising as the fundraiser initiator and donor typically have a personal relationship. How customers behave during a crisis seems to be driven extensively by risk perception and not "true" risk (Pennings, Wansink, & Meulenberg, 2002). Consequently, to accurately model the effect of a crisis on customers, it is important to measure the perception of the current crisis and its "true" extent.

4 Data

To examine social media p2p fundraising in crisis times, we use a range of secondary and public data sources. We manually collected the publicly available information on Facebook p2p fundraisers for the top 100 German NPOs, as defined by the Deutsche Zentralinstitut für soziale Fragen (DZI). From this list, 97 of the 100 NPOs had a Facebook page, and 47 NPOs reported successful fundraisers with donations of $50 or more. For 2017, we observe 111 fundraisers with a total donation amount of 19 100€. For 2018, we observe 1810 fundraisers, which raised a total of 283 000€. For 2019, we recorded 4030 fundraisers that collected 627 000€, and until June 2020, we recorded 1160 fundraisers that collected 293 000€.

Because we cannot observe all fundraisers, we sought to obtain indicators of the total social media p2p fundraiser volume and obtained from two partner NPOs the complete list of fundraisers. Comparing them to NPO's Facebook profile page, it seems that the publicly

available information represents, on average, 46% of all fundraisers and 87% of the money collected through this channel.

5 Social media fundraising during the COVID-19 crisis

Large shocks can extensively change the drivers behind a consumer decision (Van Heerde, Helsen, & Dekimpe, 2007). To determine COVID-19's impact on social media p2p fundraising, we use a two-step approach. First, we quantify potential changes in the number of social media p2p fundraisers at the beginning of the COVID-19 crisis in Europe (i.e., 17th March to 31st May 2020). For this, we calculate the average daily difference between the observed number of fundraisers and the predicted number, predicted with an autoregressive integrated moving regression model with exogenous variables (ARIMAX). Second, we use regression analysis to examine potential causes for this difference.

5.1 ARIMAX model to quantify the impact of the COVID-19 crisis

ARIMAX models are ideal for analyzing time series with a longer time-span (Dekimpe & Hanssens, 2000). We followed the procedure described in Horvath, Kornelis, and Leeflang (2002). We controlled for seasonal change by creating a variable that contains the number of fundraisers created exactly one year before day x for each day (Equation 1):

$$F_{ct+1} = \mu + \sum_{p=1}^{P} \gamma_p F_{ct-p} + \beta_1 F_{ct-365} + \epsilon_t - \sum_{q=1}^{Q} \theta_q \epsilon_{t-q} \quad (1)$$

F_{ct} is the number of fundraisers created for NPO c (or all NPOs) at time t, ϵ_t is the error term, μ is a constant, P and Q are the number of autoregressive and moving average terms, F_{ct-365} enable us to control for seasonal effects. To ensure the validity of the forecasts, the data must contain enough heterogeneity (Govind, Chatterjee, & Mittal, 2008), which is given in our data. We use the data from the 1st November 2019 to the 31st May 2020 to estimate the number of fundraisers per NPO from 17th March to 31st May 2020. In this period, the number of fundraisers created per day is stationary, which simplifies the analysis.

We determine an optimal lag of 4 days and an optimal moving average of 14 days because these values minimize the Aikineon Information Criterion (AIC). The model for the fundraisers created per day for all NPOs is visible in Figure 1 has an AIC of 663. Table 1 reports the top 3 and lowest 3 NPOs.

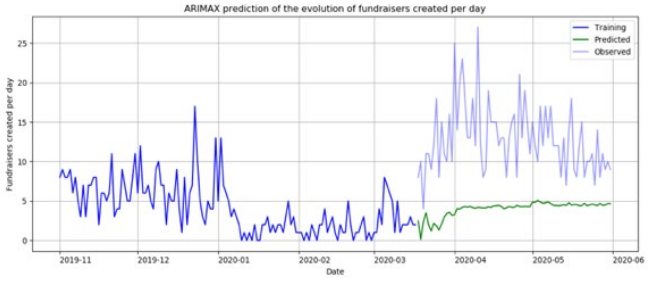

Figure 1: ARIMAX prediction model for all NPOs

Difference = Observed – Predicted fundraisers	**Within 30 days of the crisis start**	**Within 60 days of the crisis start**	**Within 75 days of the crisis start**	**Predicted fundraisers within 75 days**	**Observced fundraisers within 75 days**
(1) SOS-Kinderdörfer weltweit	92.7	191	222	13.6	236
(2) Save the Children Deutschland	62.4	121	141	2.57	144
(3) Welthungerhilfe	43.5	97.4	122	0.63	123
...					
(35) medico International	-0.67	0.32	0.32	0.68	1
(46 - 36) Acction Medeor e.V., KOLPING International, Bibel TV, … (+ 7 others)	0.00	0.00	0.00	0.00	0
(47) Plan International	- 4.01	- 5.83	- 6.30	6.30	0
Uplift = (Observed – Predicted)/Predicted x 100					
Average Uplift over all 47 NPOs	+ 496%	+ 538%	+ 530%	153	966

Table 1: Winners and losers of the COVID-19 crisis by difference in predictions

Between the 17th March 2020 and the 31st May 2020, there is an average 530% uplift between the predicted values and the observed ones across all NPOs (Root mean squared error: 9.85). This suggests that a substantially higher number of social media p2p fundraisers was started during the crisis than expected. We replicated the analysis and predicted the number of fundraisers in February 2020. Here, the fit was substantially better, with an uplift of only 65%. Thus, our model is robust in times without an external crisis. The three NPOs with the highest uplift across the entire prediction period all support the same cause. They are all international development aid NPOs. For the losers, the cause is not the same. There are 35 NPOs that attracted more fundraisers than predicted and only one NPO, "Plan International" where the predicted number of fundraisers is greater than the observed number of fundraisers across the three time periods. In between there are 10 NPOs that have no fundraisers during the entire prediction period. For these the prediction power of the model, measured by the difference between predicted and observed fundraisers is high. For the winners of the crisis the difference increases as the crisis progresses. Observed numbers keep rising while predicted numbers remain steady. The NPO "SOS Kinderdörfer weltweit" ranked in first position attracted more than 10 times the number of fundraisers predicted.

5.2 Regression model with impact of different factors on social media p2p fundraising

Finally, we examine the drivers that caused the differences in the fundraiser numbers. We propose different explanations for the daily differences between the observed and predicted number of fundraisers: The changes during the COVID-19 crisis might be

explainable by direct effects of the crisis, like the perception of the crisis by internet users (recorded through google trend data). Further, an NPO's characteristics, like its website traffic (recorded through SimilarWeb) or what cause it supports, could influence initiators differently than outside a crisis. The changes could also be driven by an NPO's Facebook presence, like the number of likes for its page. The entire list of variables is visible in Table 3. We regressed these independent variables on the difference between predicted and observed fundraisers per day and the absolute number of observed fundraisers per day.

Variables	**Model 1** **Difference between observed and predicted fundraisers**	**Model 2** **Observed fundraisers per day**
Constant	-0.0324 (0.050)	-0.112 (0.048)
COVID-19 descriptors		
COVID-19 cases	0.0023 (0.001) **	0.0024 (0.001) **
Corona google trend data	-0.0019 (0.001)	-0.0014 (0.001) *
NPO characteristics		
Yearly donation volume (2018) in Millions of EUR	0.0039 (0.000) ***	0.0033 (0.000) ***
Website visits (in 1000)	-0.0112 (0.003) ***	-0.0161 (0.003) **
Cause: Education and research (dummy)	-0.0788 (0.058)	-0.0550 (0.056)
Cause: Health (dummy)	-0.0108 (0.044)	-0.0345 (0.042)
Cause: Social services (dummy)	-0.179 (0.043) ***	-0.145 (0.041) ***
Cause: Environnemental and animal protection (dummy)	-0.276 (0.071) ***	-0.236 (0.069) **
Cause: Development support (dummy)	-0.154 (0.069) *	-0.110 (0.066) *
Cause : Human rights, law and politics (dummy)	-0.630 (0.102) ***	-0.713 (0.100) ***
Cause: Others (dummy)	-0.106 (0.080)	-0.187 (0.077) *
NPO Facebook presence		
Likes for the NPO on Facebook (in 1000)	0.0028 (0.000) ***	0.0032 (0.000) ***
NPO rating by Facebook users	0.0430 (0.007) ***	0.0374 (0.007) ***
R-squared	0.117	0.139
N	3478 (= 47 NPOs × 75 days)	3478 (= 47 NPOs × 75 days)
Additional variables:	Cause: International development aid (control), Facebook.com visits	
Note: Significance level $\alpha = 0.001$ → ***, $\alpha = 0.01$ → **, $\alpha = 0.1$ → *		

Table 2: Regression models for fundraiser drivers

We control for the assumptions of linear regression. We do not find heteroscedasticity issues, a result supported by the Goldfeld-Quandt test (p=0.400). According to the variance inflation factors (VIF), we do not face multicollinearity issues when excluding the variable Facebook.com visits from the models (it is correlated with the Corona google trend data). Finally, as a robustness test, we repeated the analysis for the last two months of 2019, when COVID-19 was not present at all in Germany. The average difference in the prediction was only -5.45%, indicating that without a crisis, our model would have provided a good fit of the data.

Table 2 shows the results of the two regression models. In both models, an increase in COVID-19 cases lead to an increase in Facebook p2p fundraiser numbers and decrease the prediction accuracy of the ARIMAX models. An increase in the google trends index of the word "Corona" decreases fundraiser volume, but this variable is only significant for model 2. This observation suggests that the COVID-19 case numbers and not the attention paid to the

COVID-19 crisis impacted the social media p2p fundraising landscape, which differs from what has been observed during other crises.

Similarly, an increase in visits to an NPOs website leads to a decrease in fundraisers created per day on Facebook. This may be because Facebook fundraisers cannibalize website donations and vice versa. We find that every cause in the model has a negative impact on the difference between the predicted and observed variables. Further, the larger the donation volume for the non-profit and the higher the number of likes of its Facebook page, the more likely it is to have observed an increase in fundraiser numbers during the COVID-19 crisis. The same is true for a positive rating for the NPO. The better the rating, the more likely it is to have observed an increase in fundraiser numbers during the COVID-19 crisis. Thus, it is clear that being active on Facebook pays off for an NPO. The more it develops an active community on social media, the higher it's chances are to create a fundraising channel through social media p2p fundraising that is stable during a crisis and that might even compensate for losses on other channels during a crisis.

6 Conclusion

The COVID-19 crisis strongly impacted the social media p2p fundraising channel. The donation volume via Facebook p2p fundraiser more than quintupled. Literature shows that the perception of a crisis by customers may have a larger impact on a market than the "true" effect of the crisis, our results show the opposite. Increases in the perception of the crisis lead seem to increase fear of instability and thus lower fundraiser volume, while the "true" course of the crisis seems to increase initiator's wish to support a cause.

The crisis may have made it more difficult for smaller NPOs to perform and their larger counterparts on social media p2p fundraising. Furthermore, the type of cause an NPO supports is important during the crisis. It is curious that despite health and social service being at the center of the COVID-19 crisis, these NPOs did not receive additional interest of fundraiser initiators, instead international development NPOs may have received increased attention. During the 2008-2009 financial crisis, health and social service NPOs were the only sectors that did not lose donations (Morreale, 2011).

One limitation of this research is that we only focus on one fundraising channel. While this allows us to analyze it in-depth, it does not tell us how the COVID-19 crisis may have impacted other channels. Did these channels record increases in donations as well? A

complete picture may help professional fundraisers tailor their marketing strategies better. Besides, we only consider a sub-sample of German NPOs extending the analysis to more NPOs may give a fuller picture.

7 References

Andreoni, J., & Payne, A. A. (2013). Charitable Giving. In *handbook of public economics, vol. 5* (pp. 1-50).

Berman, J. Z., Levine, E. E., Barasch, A., & Small, D. A. (2015). The Braggart's Dilemma: On the Social Rewards and Penalties of Advertising Prosocial Behavior. *Journal of Marketing Research, 52*(1), 90 104. doi:10.1509/jmr.14.0002

Besel, K., Williams, C. L., & Klak, J. (2011). Non-profit sustainability during times of uncertainty. *Non-profit Management and Leadership, 22*(1), 53-65. doi:10.1002/nml.20040

Castillo, M., Petrie, R., & Wardell, C. (2014). Fundraising through online social networks: A field experiment on peer-to-peer solicitation. *Journal of Public Economics, 114*, 29-35. doi:10.1016/j.jpubeco.2014.01.002

Choi, J., Li, Y. J., Rangan, P., Yin, B., & Singh, S. N. (2020). Opposites attract: Impact of background color on effectiveness of emotional charity appeals. *International Journal of Research in Marketing*. doi:10.1016/j.ijresmar.2020.02.001

Deb, R., Gazzale, R. S., & Kotchen, M. J. (2014). Testing motives for charitable giving: A revealed preference methodology with experimental evidence. *Journal of Public Economics, 120*, 181-192. doi:10.1016/j.jpubeco.2014.09.009

Dehling, J. (2015). *Wie finanzieren sich zivil gesellschaftliche Organisationen in Deutschland?*

Dekimpe, M. G., & Hanssens, D. M. (2000). Time-series models in marketing: Past, present and future. *International Journal of Research in Marketing, 17*, 183 - 193.

Good, N. T. f. (2019). *Global NGO Technology Report 2019*.

Govind, R., Chatterjee, R., & Mittal, V. (2008). Timely access to health care: Customer-focused resource allocation in a hospital network. *International Journal of Research in Marketing, 25*(4), 294-300. doi:10.1016/j.ijresmar.2008.07.005

Harbaugh, W. T. (1998). What do donations buy? A model of philanthropy based on prestige and warm glow. *Journal of Public Economics, 67*, 269 - 284.

Haruvy, E., Popkowski Leszczyc, P., Allenby, G., Belk, R., Eckel, C., Fisher, R., . . . Wang, Y. (2020). Fundraising design: key issues, unifying framework, and open puzzles. *Marketing Letters*. doi:10.1007/s11002-020-09534-8

Haruvy, E., & Popkowski Leszczyc, P. T. L. (2009). Bidder motives in cause-related auctions. *International Journal of Research in Marketing, 26*(4), 324-331. doi:10.1016/j.ijresmar.2009.07.001

Horvath, C., Kornelis, M., & Leeflang, P. S. H. (2002). What Marketing Scholars Should Know About Time Series Analysis. *s.n.*

Lin, W., & Wang, Q. (2016). What Helped Nonprofits Weather the Great Recession? *Non-profit Management and Leadership, 26*(3), 257-276. doi:10.1002/nml.21197

Meer, J. (2011). Brother, can you spare a dime? Peer pressure in charitable solicitation. *Journal of Public Economics, 95*(7-8), 926-941. doi:10.1016/j.jpubeco.2010.11.026

Morreale, J. C. (2011). *The Impact of the "Great Recession" on the Financial Resources of Nonprofit Organizations*.

Organisations & Foundation (2009). *The impact of the recession on charitable giving in the UK*.

Pennings, J. M. E., Wansink, B., & Meulenberg, M. T. G. (2002). A not on modeling consumer reactions to a crisis: The case of the mad cow disease. *International Journal of Research in Marketing, 19*, 91 - 100

Robiady, N. D., Windasari, N. A., & Nita, A. (2020). Customer engagement in online social crowdfunding: The influence of storytelling technique on donation performance. *International Journal of Research in Marketing*. doi:10.1016/j.ijresmar.2020.03.001

Van Heerde, H., Helsen, K., & Dekimpe, M. G. (2007). The Impact of a Product-Harm Crisis on Marketing Effectiveness. *Marketing Science, 26*(2), 230-245. doi:10.1287/mksc.1060.0227

Wang, X., & Tong, L. (2015). Hide the light or let it shine? Examining the factors influencing the effect of publicizing donations on donors' happiness. *International Journal of Research in Marketing, 32*(4), 418-424. doi:10.1016/j.ijresmar.2015.06.001

Whitehead, H. (2020). Charities set to lose £4bn over 12 weeks due to Covid-19 pandemic. *News.* Retrieved from https://www.civilsociety.co.uk/news/charities-face-closure-as-sector-set-to-lose-4bn-over-12-weeks.html