

Securing Donations in Fundraising Sites: The Use of Seed Money for Campaigns

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Research Background



Seed money is money that is given initially to someone to help them start a new business, campaign, or project

Campaign A : Without seed money



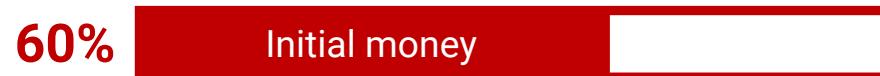
0%



Campaign B : With seed money



60%



Campaign A has no seed money while Campaign B has a seed money of 60% of its total target.

This study is interested to know whether putting seed donation would be an effective strategy in fundraising site

Findings

Most papers about seed donation agreed that **seed donation can increase donation**, either amount of donations or participation rate of people



Research Objective

Investigate the **effectiveness of putting seed donations** into campaigns on crowdfunding websites as a means of accelerating charity progress



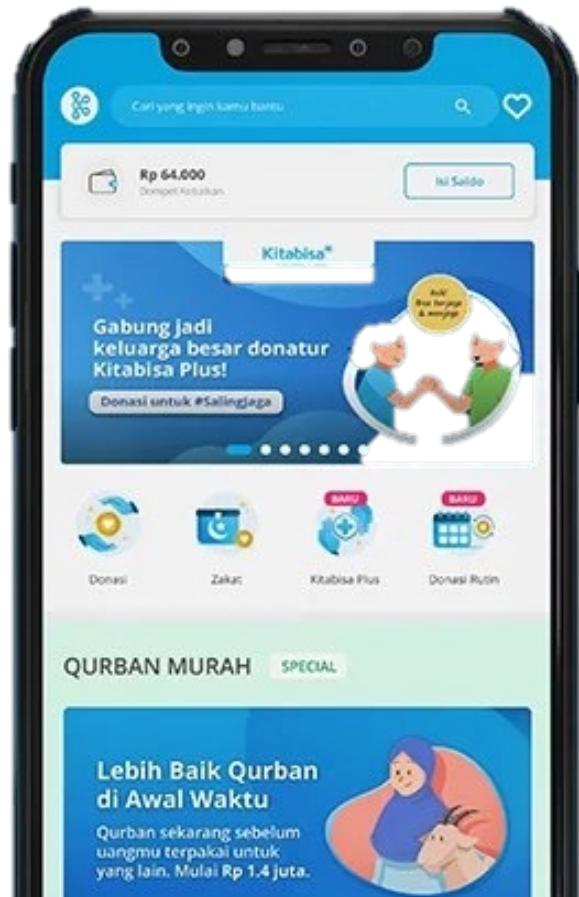
What to Do?

Observe number of people donating and their amount of donations along the progress to the completion of campaigns in a crowdfunding site situation

Data Collection



Kitabisa, one of the most Indonesia's most popular fundraising for the main object of the research



Kitabisa is one of the most famous online platform in Indonesia to gather capital through fundraising. They have website and mobile application for it. Since 2013, they have...

7 Million

total donors

3,000

organizations

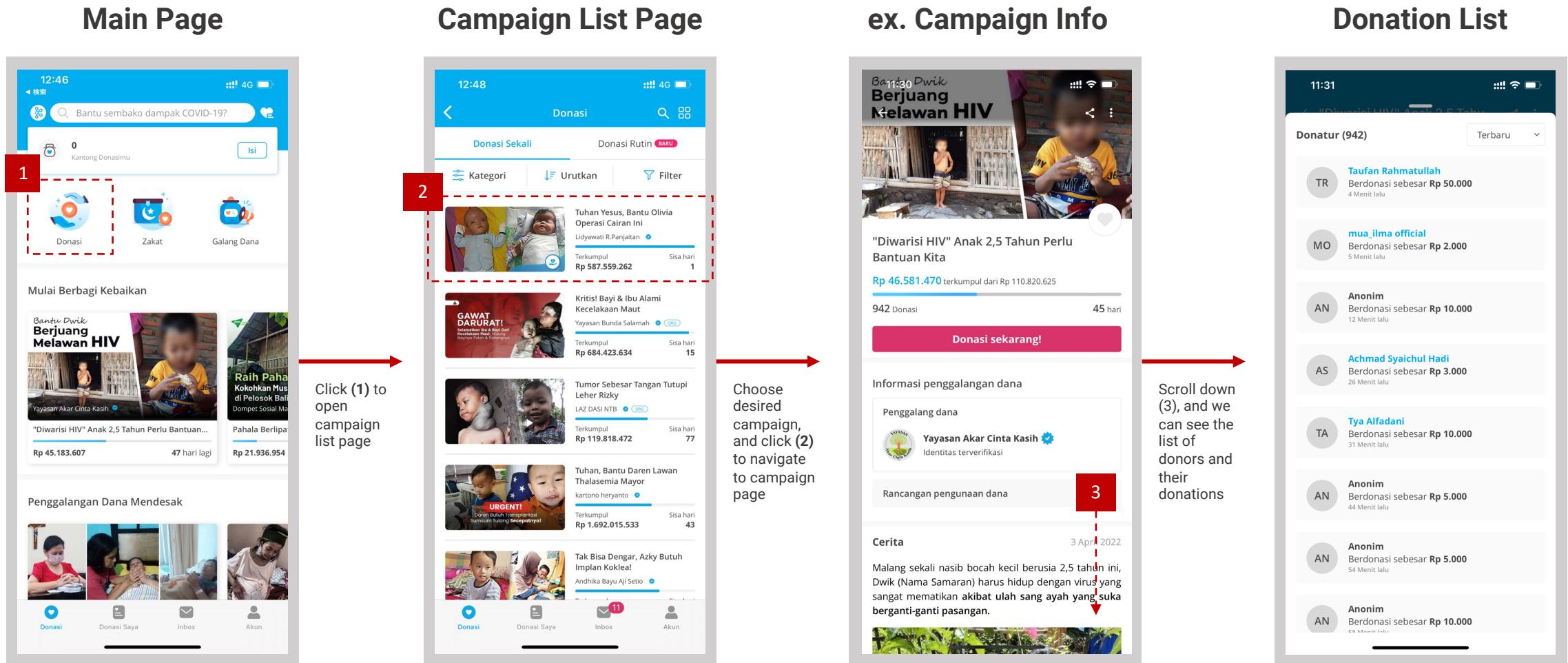
200,000

campaigns

300

CSR programs

One of many funnels that people will go through when they want to make a donation in Kitabisa



From the scraping, I got 1,376 campaigns with total donations of 17,070,348 that I filtered again..

Initial sample

Pooled data from Sep 27 - Oct 24, 2022

1,376 campaigns

Number of donations

17,070,348

Amount donated

IDR 502 bil.

- Percentage progress above 90%
- Campaign doesn't run forever
- Have a defined target amount
- Number of donations below 500,000

Final sample

Filtered by criteria

54 campaigns

Number of donations

1,354,060

Amount donated

IDR 32 bil.

Transforming available data into the other meaningful variables to conduct the analysis

For every **donation i -th** in every **campaign j** ...

Percentage Progress (P_{ij})

$$P_{ij} = \frac{\sum_{k=1}^{i-1} D_{kj}}{\text{Campaign Target}_j}$$

Percentage of the progress at the time the donation was made where D_{ij} represents the donation amount and Campaign Target_j represents the targeted amount of money for the campaign.

Progress Bin (B_{ij})

$$B_{ij} = \begin{cases} 11 & \text{if } P_{ij} > 100\% \\ \lceil P_{ij} * 10 \rceil & \text{otherwise} \end{cases}$$

Make a bin for each donation where the bins are created with 10% increments up to 100%, and any donations made after the progress bar is already full (over 100%) are assigned to an additional bin (bin 11) .

Duration from Previous Donation (dur_{ij})

$$dur_{ij} = t_{ij} - t_{(i-1)j}$$

The time elapsed since the previous donation occurred by subtracting the timestamp of the previous donation ($t_{(i-1)j}$) from the timestamp of the current donation (t_{ij}).

Categorizing campaigns by the duration from previous donation of each campaign and age of the campaign

As there might be prolonged campaigns in the data, **campaigns were categorized by...**

All 54 campaigns from the data (pooled data)

if $\exists i : (dur_{ij} > 30 \text{ days}) \vee (Ds_j > 365 \text{ days})$

Extended Campaigns
30 campaigns

otherwise

Fixed-date Campaigns
24 campaigns

...where dur_{ij} is the **duration from previous donation** and Ds_j is the **age of campaign j** (duration the campaign has been in the system since the campaign started).

From three foundations, Hypothesis 1 predicts the correlation of campaigns progress on motivation to donate

Signaling Effect on Donation

Seed donation may promote signaling of to other donors thus increasing participation rate and amount.

(Andreoni, 1998; Bracha et al. 2011; List & Lucking-Reiley, 2002; Potters et al., 2005; Vesterlund, 2003)

Donation with Multiple Public Goods Setting

In multiple public goods with seed donation, because too many options, people may pay attention to seed as a simple default.

(Ansink et al. 2017)

Progress on Motivation to Complete Task

Motivation of goal pursuit can be highest only in the middle (U-curve) based on perceived marginal value of progress.

(Bonezzi et al. 2012)



Models

$$\text{bin_dur}_{BJ} = \beta_0 + \beta_1 B_j + \beta_2 B_j^2 + (\text{control}) + \varepsilon$$

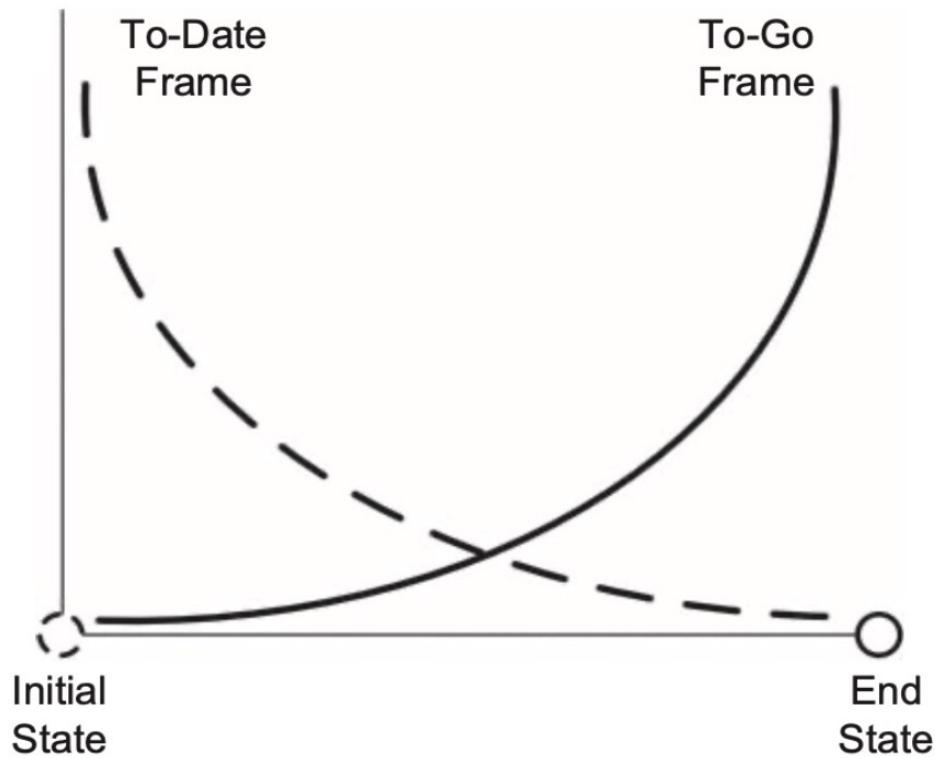
Hypothesis 1(a) : As more money is donated, it will take less time to fill up each progress bin; but at some point, it will take longer again.

$$\text{dur}_{ij} = \beta_0 + \beta_1 P_{ij} + \beta_2 P_{ij}^2 + (\text{control}) + \varepsilon$$

Hypothesis 1(b): The duration from the previous shortens with increasing percentage up until certain point, and eventually lengthens again until the end.

People's motivation to finish a task turns out can be influenced by how they view the task progress

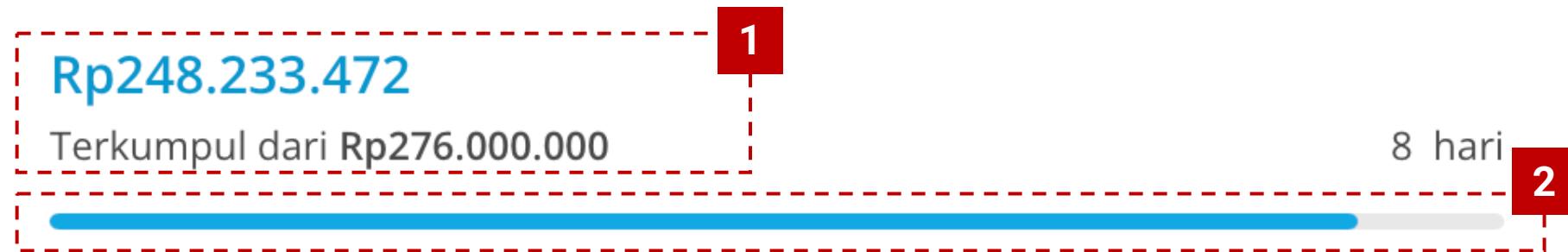
Distance From Standard of Reference (Initial State vs. End State) for Motivation



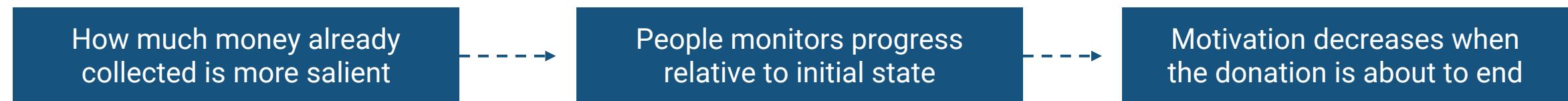
- Stuck in the middle theory
- **Motivation decreases** monotonically when an actor monitors progress relative to the initial state (to-date frame),
- On the other hand, **motivation increases** monotonically when an individual monitors progress relative to the end state (to-go frame)
- Thus, it shapes a U-curve

The design of the interface might decrease people motivation when a campaign is about to achieve target

Design of Campaign Progress Bar on Kitabisa Sites

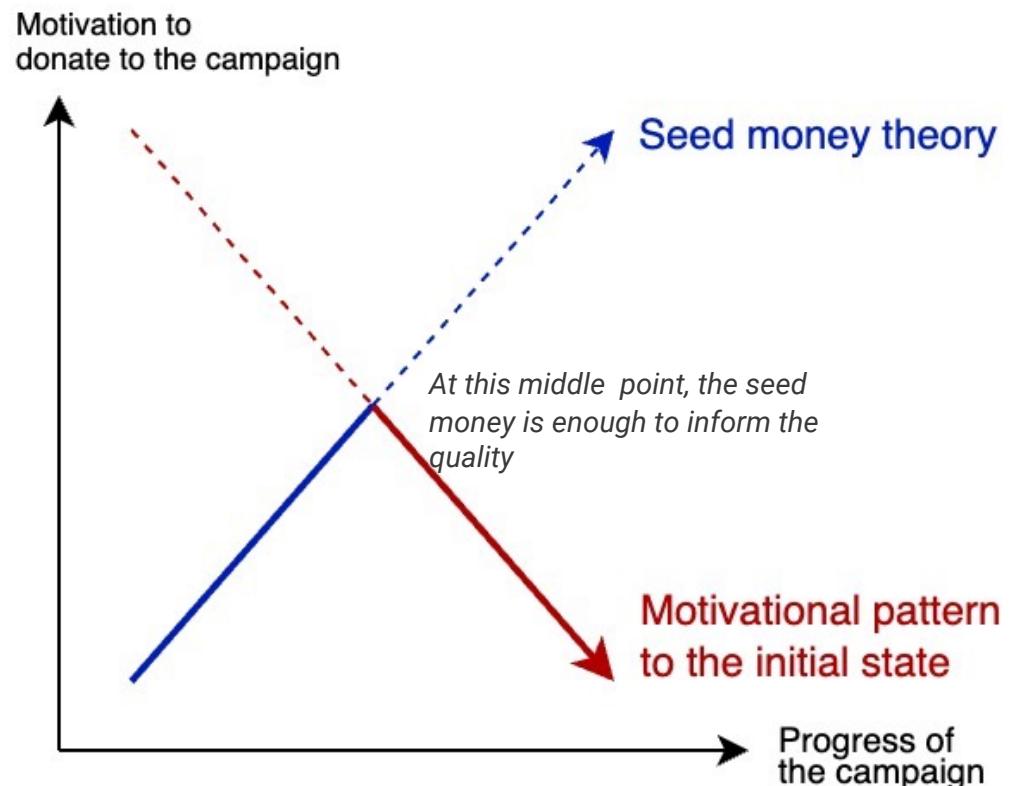


- 1 The interface only shows how much money a campaign **already collected (blue big text)**, rather than how much money a campaign **should collect**
- 2 The progress bar shows how much money a campaign already collected in a blue colored bar, compared to how much remaining money a campaign should collect with a faint gray color



Therefore, we can combine both the seed money and motivation to progress theory into one framework

Progress to the Motivation to Donate to the Campaign*

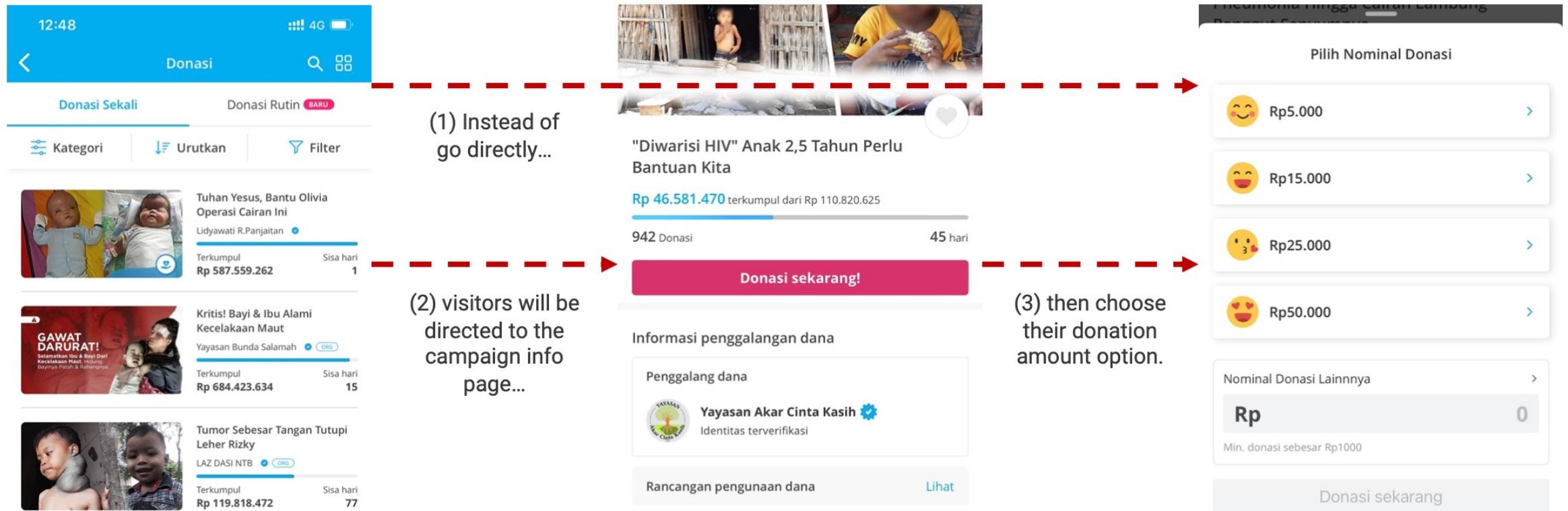


- 1 **Seed money:** Campaign progress acts as a signal of quality, improving perception as it advances.
- 2 **To-initial state:** Once the campaign surpasses a certain midpoint in progress, the perception of progress relative to the initial state diminishes, lowering motivation to donate.

Motivation increases with progress but declines in the middle, **not the opposite**.

* Simplified line as the exact pattern might be not linear like the one shown in the plot.)

On the other hand, Hypothesis 2 expects that amount of donation won't be affected by the progress of campaign.



Visitors will have plenty time to learn more about the campaign, thus visitors might be exposed with other variables*. Therefore, I don't expect there will be any correlation between progress of the campaign and amount of donation.

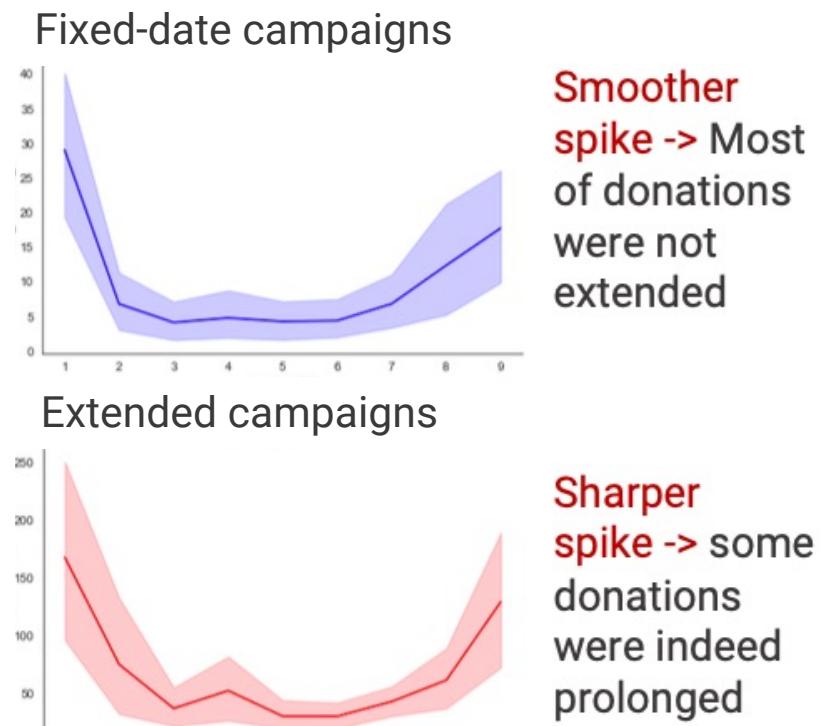
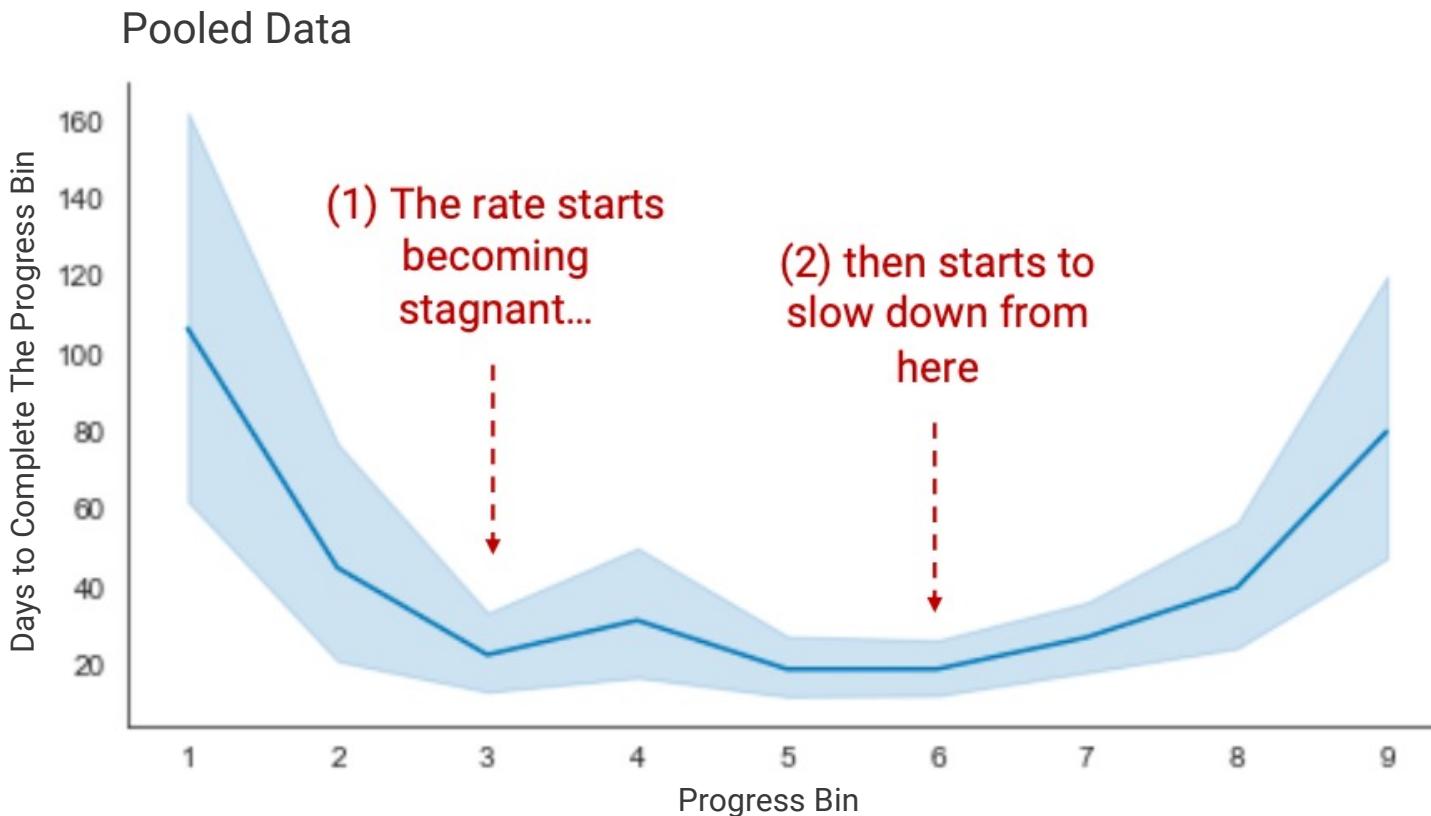
*These variables include photo of target, storytelling, etc. thus influenced their donation behavior (Basil et al., 2008; Bennett, 2003; Sargeant et al., 2004; Small & Simonsohn, 2008)

Result and Discussion



The progress bin finished faster until the 3rd, but started to slow down again after the 6th progress bin

Total Days to Complete Every Progress Bin in Pooled (Left) and Days Category (Right)



The lowest peak where the progress bin finished the fastest is when it is about the half of the progress

Polynomial Regression of Progress Bin to the Duration Completion of the Bin (in Days)

Variables	Without Fixed Effects			With the Fixed Effects of Campaign		
	(1) Pooled Data	(2) Fixed-date	(3) Extended	(1) Pooled Data	(2) Fixed-date	(3) Extended
Progress Bin (B_j)	1 -47.389***	-12.476***	-75.319***	2 -47.389***	-12.476***	-75.319***
Progress Bin ²	4.530***	1.208***	7.188***	4.530***	1.208***	7.188***
Observations	486	216	270	486	216	270
Adj. R ²	0.074	0.170	0.116	0.269	0.400	0.232

- (1) The shortest point where the bin is completed is at bin 5 (5.231 for pooled data, 5.164 for below, and 5.239 for Extended)
- (2) The coefficients of progress bin remain unchanged even after controlling fixed effects of the campaigns

After controlling campaign characteristics, the progress bin is still robust enough to explain duration to finish bin

Variables	Pooled Data	Fixed-date	Extended
Progress Bin (B_j)	-47.389***	-12.476***	-75.319***
Progress Bin ²	4.5304***	1.208***	7.188***
Days Category: Fixed-date	-54.549***	-	-
Campaigner Type: Personal	3.736	0.717	-4.576
Verified: True	29.545**	-0.827	69.290**
Donation Target	0.000	0.000**	0.000
Observations	486	216	270
Adj. R ²	0.241	0.370	0.210

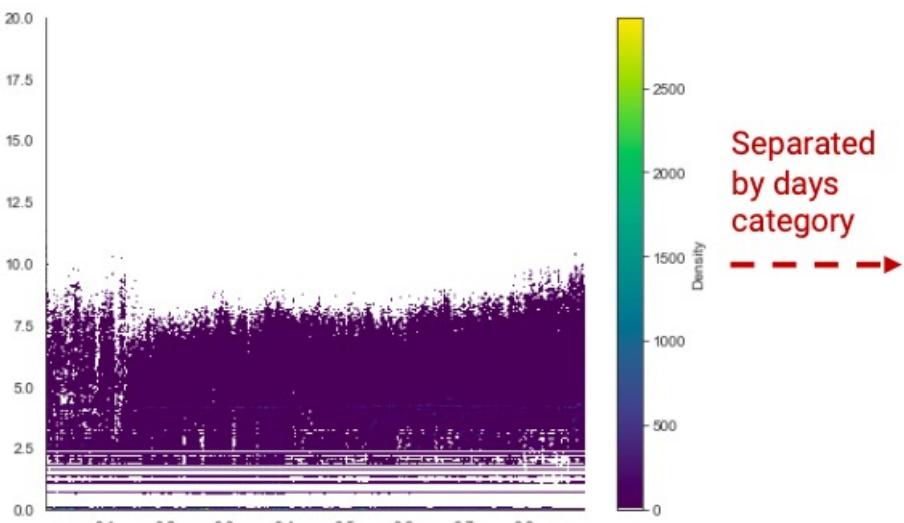
Regression of All Variables Listed to the Duration Completion in Days

(!) Coefficients for main interest of this study does not change at all, and are the most significant variables, showing the robustness of progress bin

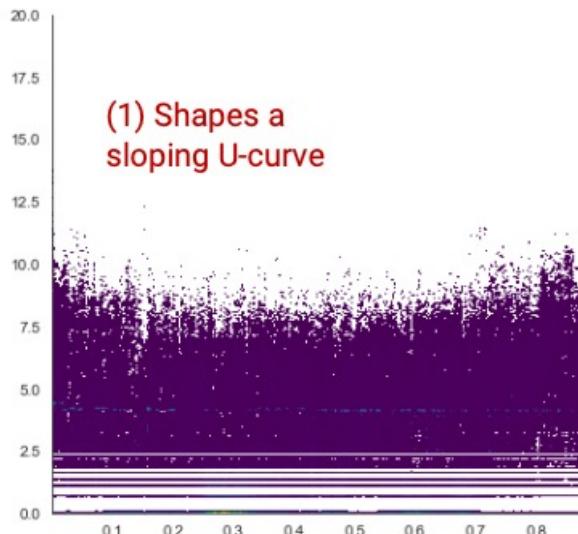
The duration from previous donation is longer in the beginning and when the campaign is about to end

Density Scatterplot for Percentage Progress to Logged Duration from Previous Bin

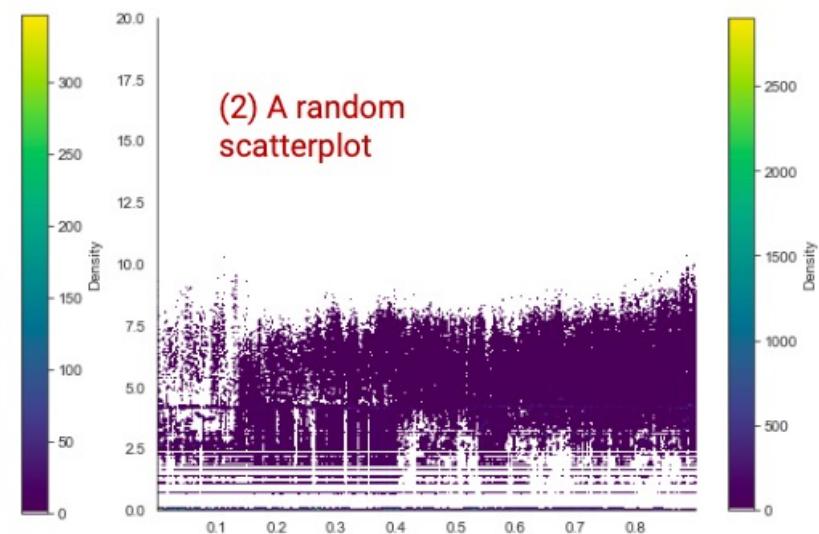
Pooled Data



Fixed-date



Extended



(1) Fixed-date scatterplot begins to form a sloping U-curve Fixed-date, even though less visible

(2) Extended scatterplot is more random, additional evidence that some Extended campaigns were prolonged

Regression shows that the fastest duration from the previous donation is somewhere around 37%

Polynomial Regression of Progress Bin to the Duration Completion of the Bin (in Days)

Variables	Without Fixed Effects			With the Fixed Effects of Campaign		
	(1) Pooled Data	(2) Fixed-date	(3) Extended	(1) Pooled Data	(2) Fixed-date	(3) Extended
Pct Progress (P_{ij})	1 -1.062***	-5.716***	2 0.110**	3 -0.560***	-3.439***	0.182**
Pct Progress ²	3.054***	7.654***	1.920***	2.432***	5.293***	1.719***
Observations	1,213,156	244,904	968,252	1,213,156	244,904	968,252
Adj. R ²	0.035	0.049	0.037	0.460	0.437	0.467

(1) The point of shortest duration between each donation is when progress reaches 17% (pooled) and 37% (Fixed-date).

(2) Coefficient for Extended doesn't make sense, as the global minimum is at -2% of the campaign's progress, proof that campaigns were extended

(3) After controlling fixed effects of the campaign, the coefficients only changed slightly while the sign of coefficients are still consistent

Robustness check with controlling variables show that the models are robust for pooled and Fixed-date

Variables	Pooled Data	Fixed-date	Extended
Percentage Progress (P_{ij})	-2.133	-4.348	-1.296
Percentage Progress ²	3.692	6.169	2.846
Days Category: Fixed-date	0.215		
Anonymity: True	-0.890	-0.331	-0.976
Category: Medical and Health	0.130	-1.779	-0.521
Observations	1,213,156	244,904	968,252
Adj. R ²	0.292	0.338	0.383

Regression of Campaign and Donors Characteristics to the Duration from Previous Donation

(!) After controlling variables for campaign characteristics, percentage progress and its quadratic form do not change all that much (28% for pooled and 35% for fixed-date)

While Fixed-date model shows a positive influence, the effect size is really small

Regression of Percentage Progress to Size of Donation

Variables	Without Fixed Effects			With the Fixed Effects of Campaign		
	(1) Pooled Data	(2) Fixed-date	(3) Extended	(1) Pooled Data	(2) Fixed-date	(3) Extended
Pct Progress	1 -3,226.24***	3,422.08***	-4,237.18***	2 -4436.48***	9,162.39***	-7,985.67***
Observations	1,213,156	244,904	968,252	1,213,156	244,904	968,252
Adj. R ²	0.000	0.000	0.000	0.016	0.024	0.014

- (1) While significant at $p = 0.001$, the coefficients sign are inconsistent between fixed-date and extended. In addition, fixed-date model has really small effect size, **only at IDR 3,100 / 10 cents of USD at the maximum percentage progress (90%)**.
- (2) After controlling fixed effects of the campaign, coefficient for Fixed-date and Extended jumped for about 2-3 times

While progress correlates with donation rate, it does not have influence on the amount of donation

Hypothesis 1

As the **progress of a campaign increases, the donation rate also increases**, inferred by shorter duration to complete bin progress and duration from previous donation...

...but the **rate falls after around the middle of the progress**, inferred by the duration that becomes longer again until the end of the progress.

When there are multiple choices of similar campaigns, seed is a good default as to choose as it shows the high-quality of the campaign to the others (signaling effect)

People set their reference of the progress bar to initial state, as the bar how far the campaigns have come is more salient, thus lower people's motivation when the campaign is about to achieve their target

Hypothesis 2

The seed donation, shown by progress bar, has a **little to no effect** to amount of donation in Kitabisa

Visitors have opportunity to research the campaign to which they contribute to the end, thus influenced by the campaign story, pictures, etc.

Conclusion



Should campaigners put seed
donation to their campaigns in a
fundraising site?

YES!

Conclusion and Implications

- Even though putting seed money is recommended, it is not advisable to invest too much in seed money because it might entice donors to other campaigns with lower progress percentage
- A decent beginning point is between 10% and 30% as the motivation might starts stagnant at around 30% to 50% it decreases through the end of the progress.
- Crowdfunding sites can also use the outcome of this study to begin to consider how the progress bar on their sites affects the visitors' behavior.

Thank you!

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