Improving the Quality of In-kind Donations: A Field Experiment

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In-kind donations refer to goods (clothing, food, or personal items) and services donated to a charity, instead of cash.



In-kind donations form a key source of supply; In 2017, 52% of Americans made in-kind donations to charities.



In-kind (e.g., personal items) donations contribute to charities' triple bottom line!

→ Social welfare: directly sent to beneficiaries



→ Additional revenue: selling items through thrift stores



In 2020, despite the COVID-19, the Salvation Army earned \$598 million from 1,116 thrift stores, 18% of their total revenue.



→ Reducing environmental waste: rechanneling used items



In 2020, Goodwill diverted 3.3 billion pounds of usable goods from landfills.



Why We Need to Stop Giving Our Junk to the Poor



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Goodwill Northern New England spends over \$1 million annually to dispose of 13 million pounds of unsuitable items only for 30 thrift stores.

 ■ The Scattle Times



With currently more than 3,000 Goodwill thrift stores and over 25,000 nonprofit resale shops in the U.S., trash donations impose substantial social costs.



SVdP's loading area were always stacked with items waiting for disposal service to pick up; **The charity was forced to rely on additional trash removal service**; Every month, on average, they received 90 truckloads of junk.

Question

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Finding a practical solution to reduce the amount of junk donations without losing donors.

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Daniels and Valdes (2021) demonstrate that donors learn from their donation experience, and use rejection as a self-serving excuse not to give in the future.

SVdP Phoenix



FEED. CLOTHE. HOUSE. HEAL.

- Founded in 1833
- ullet With \sim 800,000 members
- Operating in 153 countries
- Serving more than 30 million people

SVdP Phoenix



SVdP Phoenix:

- The largest division of SVdP in the U.S.
- Serving central and northern AZ since 1946
- $\bullet~\sim300$ paid staff and more than 6000 volunteers

SVdP Phoenix: services in 2022

3.25M meals served at dinning rooms

45,200 sheltered nights

> 154,700 food box deliveries to families & 6.2M lbs of food received & distributed

\$7M support in rent & utility assistance to households avoid eviction

Medical care for uninsured people, 14,500 treatments

102,200 touchpoints of services to 3,400 individuals experiencing homelessness

SVdP Phoenix: resources in 2022

- Cash donations from individuals (\sim \$33M)
- Grants (~ \$8.9M)
- All in-kind donations (∼ \$27.4M)
- \bullet Volunteering services from 14,000 individuals who served 208,000 hrs (\sim \$4.8M worth of labor assuming \$23 per hour)

SVdP Phoenix: thrift stores On average, SVdP receives 400-500 in-kind donations per week. 12/50

SVdP Phoenix: thrift stores

Their six thrift stores attract ∼14,000 customers, each month, generating 70,000 sales transactions. Their income in 2021 was more than \$6.2 million.

Approach¹

We use behavioral interventions in a field experiment:

- Flexibility compared with harder forms of policies e.g., regulatory bans
- ightarrow directing individuals' actions by relying on their voluntary participation
- ightarrow less tension compared to directly rejecting the donations
- Cost-free action, suitable for resource-limited charities

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Literature: in-kind donations and OM/MS

The existing literature offers insightful studies:

- Mainardes et al. (2017): how to motivate individuals to make in-kind donations
- Ahire and Pekgun (2018): how to use food and cash donations to serve beneficiaries
- Daniels and Valdes (2021): how donors would react if their in-kind donation is rejected

- Lacetera et al. 2014 & Goette and Stutzer 2020: material rewards are effective in motivating people to donate blood
- Conrads et al. 2016 & Gneezy and Rustichini 2000: material rewards discourage individuals to volunteer their time and effort
- Martin and Randal 2008 & Shang and Croson 2009: social norms increase individuals' cash donations
- Moseley et al. 2018: social norms do not encourage participation in volunteering
- Goette and Tripodi 2020: feedback reduces the intention to donate again
- Mertins and Walter 2021: feedback effectively increases one's volunteering productivity

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Behavioral interventions that function in one context may not work in others!

Behavioral interventions

We used two interventions, social norm and information disclosure, both are well-supported by a growing body of literature.

Interventions: descriptive social norm

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- Individuals demonstrate a strong preference to conform to social norms due to their social-image and self-image (Benabou and Tirole 2006; Ariely et al. 2009; Gross and Vostroknutov 2022).
- A positive social-image increases the chance of being seen as trustworthy (Gross and Vostroknutov 2022).
- Self-image matters to people as they like to see themselves as moral beings (Bodner and Prelec 2003), and to signal themselves about their moral identities (Benabou and Tirole 2006).
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Information disclosure refers to disclosing content-related information to affect individuals' behaviors.



- This intervention has been broadly advocated as an appropriate response to a wide range of social and economic problems.
- Awareness of the need is the pre-requisite for charitable giving (Bekkers and Wiepking 2011).
- Learning about the needs of others leads to an altruistic motivation, a motivational state with the ultimate goal of reducing that need (Batson et al 2015).
- People donate their goods, at least partially, to advance the welfare of others through supporting a charity's mission.
- Successful examples: Thaler and Sunstein (2009), Jones et al. (2015), Nelosn et al. (2021), also a typical intervention used by charities and humanitarian organizations.

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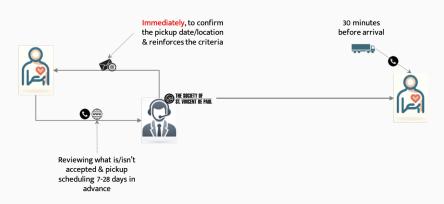
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- 3. Measuring the quality of donations
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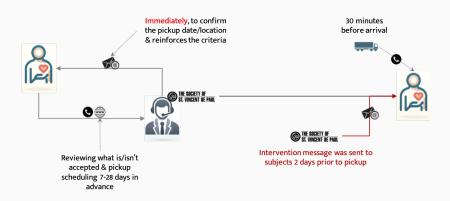
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Setting: collection process



Example of unacceptable items: dishwasher, mirror without frame, doors, weapons,...

Setting: collection process



Intervention message was sent to subjects two days prior to pickup.

Social norm

We designed the social norm message similar to Goldstein et al. (J Cons. Res. 2008), emphasizing that the norm of in-kind donations is that the majority of the donors donate items in good shape.

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Information disclosure

Information disclosure intervention should fit in specific settings, and so there is no standard form of message, in the literature, for this intervention. We constructed this message based on the need of SVdP and the benefits of taking the right action.



Hello: {{first_name}}.

Thank you for making an RSVP for St. Vincent de Paul to pick up your donated items on {[pickupDate]}. Your donated items will be sold at our thrift stores to generate funding that feeds. clothes, houses, and heals Arizona families in need.

The majority of donors give us Items that are in very good condition, and have a high likelihood of being sold at our thrift torse around the Valley, Items donated that are damaged, stained, have pet hair, have missing pieces, or are otherwise unsellable, end up costing us money to dispose of them. We understand it's not always easy to figure out what is appropriate to donate to us, so we ask that you (a) thoughtfully consider which items are being given to us, and (B) click the button below to review the list of items that we don't currently rick us.

Unacceptable Items

Your reservation includes the following items. Please make sure to bring your items to the curb as we are unable to enter homes and buildings at this time due to COVID-19 guidelines. We are humbled and grateful for your donation, and we look forward to picking up your donation on {{pickupDate}}.

Items listed on your reservation: {{items}}

If you need to make any changes to your reservation, please call us at (602) 254-3338, option 2 during normal business hours Monday through Friday.

Thank you,

St. Vincent de Paul of Arizona



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Thank you for making an RSVP for St. Vincent de Paul to pick up your donated Items on {{pickupDate}}. Your donated Items will be sold at our thrift stores to generate funding that feeds, clothes, houses, and heals Arizona familles in need.

Please know that we only accept items that are gently used. Items that we would have high difficulty slining at our stores such-as items that are damaged, stained, have pet hair, have missing pieces, or are otherwise unsellable-end up costing us tens of thousands of dollars every month to dispose of them, which diverts money away from our mission. We understand it's not always easy to figure out what is appropriate to donate to us, so we ask that you (A) thoughtfuly consider which items are being given to us, and (B) click the button below to review the list of frems that we don't currently pick up.

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We trained eight drivers who were responsible to collect the donations.

To rate, we used a Likert-type scale from 1 to 5: all garbage, mostly garbage, 50% garbage and 50% good stuff, mostly good stuff, and all good stuff.



Training took a few sessions – in each session drivers rated 20 items – until the degree of consensus among drivers reached to a "good" level; Fleiss' kappa score = 0.73 reflecting a "good" level of agreement. (A moderate level, $\kappa \in [0.41, 0.60]$.)

• SVdP provided a phone to each driver with our quality rating app installed.

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- Drivers who picked up the donations were asked to rate the quality of donations immediately after loading the items.





- The app is customized within the routing software Geopointe; it provides directions, and requires the drivers to "check in" for each location when they arrive.
- The app automatically asks the drivers to rate the donation once the pickup is finished.
- 3. The rating is immediately sent to SVdP dataset.

Setting: subjects

775 households that had never donated to SVdP were randomized to one of the three groups.

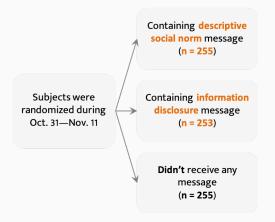
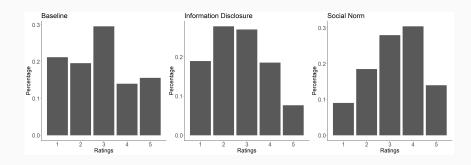


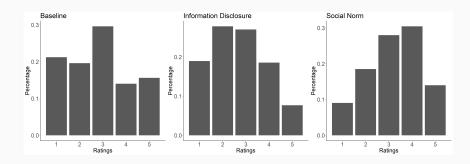
Table 1	Summary statistics by treatment		
	$\begin{array}{c c} \ Social \ Norm \\ [N=255] \end{array}$	$\begin{array}{c} {\rm Information~Disclosure} \\ {\rm [N=253]} \end{array}$	Baseline $[N = 255]$
Cancellation	12	5	5
Cash donor in the past	14	9	9
Email opened	196	189	_
Household Median Income in \$100	00 86.63 (28.38)	84.98 (29.83)	83.69 (28.71)



Average rating: social norm group 3.22, information disclosure 2.68, baseline 2.83

The difference in ratings between social norm and information disclosure (baseline) group is statistically significant at p < 0.001 (p < 0.001).

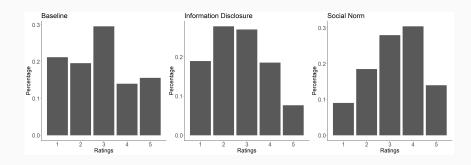
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Investigating the treatment effects on donors who opened the intervention email (i.e., compliers), and those who did not (i.e., non-compliers), we found the social norm group had an average rating of 3.33 (SE = 0.08) and the information disclosure group had an average rating of 2.69 (SE = 0.09).

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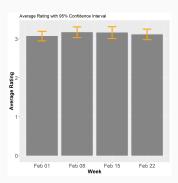
We compared the ratings for the non-compliers: The social norm group (59) had an average rating of 2.86 (SE = 0.16) and the information disclosure group (64) had an average rating of 2.67 (SE = 0.14). There is no statistically significant difference in the quality of donations between the non-compliers and the control group (p = 0.643).

Table 2	Intent-to-treat effect of	f all groups (OLS regressio	n)		
	L	Dependent Variable: Ratings			
	(1)	(2)	(3)		
Social Norm	0.386***	0.430***	0.404***		
	(0.111)	(0.112)	(0.112)		
Information Disclosure	-0.151	-0.119	-0.151		
	(0.111)	(0.112)	(0.112)		
Households Median Income	, ,	, , ,	0.006***		
			(0.002)		
Existing Donor			-0.078		
			(0.222)		
Time and Rater Fixed Effect	No	Yes	Yes		
Constant	2.832***	2.628***	2.172***		
	(0.078)	(0.378)	(0.396)		
Observations	741	741	731		
\mathbb{R}^2	0.032	0.068	0.091		
Adjusted R ²	0.030	0.045	0.065		
Residual Std. Error	1.238 (df = 738)	1.228 (df = 722)	1.214 (df = 710)		
F Statistic	12.257*** (df = 2; 738)	$2.944^{***} (df = 18; 722)$	3.547^{***} (df = 20; 710		

Table 3 Comparison between the social norm and information disclosure groups (OLS regression) Dependent Variable: Ratings (Full Sample) (Opened Email) (Did Not Open Email) 0.667*** Social Norm 0.574*** 0.356 (0.107)(0.124)(0.233)Household Median Income 0.005** 0.005** 0.004 (0.002)(0.002)(0.004)Existing Donor -0.306-0.105-0.785(0.253)(0.296)(0.517)Time and Rater Fixed Effect Yes Yes Yes 2.610*** 3.551*** 1.769** Constant (0.459)(0.705)(0.634)Observations 482 364 118 \mathbb{R}^2 0.1140.1540.189Adjusted R² 0.078 0.032 0.107Residual Std. Error 1.165 (df = 462)1.155 (df = 344)1.153 (df = 98)F Statistic 3.139^{***} (df = 19; 462) 3.289^{***} (df = 19; 344) 1.204 (df = 19; 98)

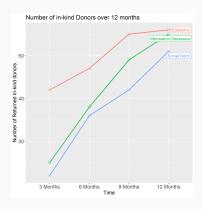
Note: *p<0.1; **p<0.05; ***p<0.01

Additional ratings on 1,301 in-kind donations during February 2021 who received a social norm message.



Week	Observations	Average Rating	SE of Ratings
Feb 01	307	3.07	0.06
Feb 08	356	3.17	0.07
Feb 15	308	3.17	0.08
Feb 22	330	3.12	0.07

Long-term effect



We tracked the cumulative number of in-kind donors who made another donation after the experiment.

The number of cumulative returned in-kind donors among the three groups converges over time.

Reason

We can attribute this difference to

- thinking process
- information overload
- individuals' utility

- automatic system that is intuitive, unconscious, and effortless
- reflective system that is self-aware, effortful, and requires deductive thinking
 - \rightarrow With social norm, one simply follows what others are doing, without analyzing the situation.
 - ightarrow With information disclosure, one must first understand the altruistic needs in a particular setting, then make deductive connections between the ask and others' benefit

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Reason: information overload



Information overload: There is a limitation on the amount of information to which people can attend to at any point in time; bounded attention renders many disclosures useless.

Reason: information overload

Fewer than 3% of consumers read the privacy disclosures on websites.

75% of consumers wrongly think that the existence of a privacy policy implies privacy protection.

When individuals see some numbers, they discontinue reading the email.

Reason: utility



Information disclosure offers the freedom of choice.

Automobile manufacturer publicizes the safety characteristics of cars, car purchasers can trade safety concerns against other attributes e.g., price and styling.

Reason: utility

Social norm intervention directs people's attention to the social identity utility, and conforming to the social norm will enhance one's social image.



Individuals use their perceptions of peer norms as a standard against which to compare their own behaviors; People measure the appropriateness of their behavior by how far away they are from the norm.

To theory

It highlights how a small intervention can have a significant impact on behavior.

To theory

Our field data challenges the common notion of the effectiveness of information disclosure, but the social norm intervention is found to have promising outcomes.

To theory

This is an example showing that individuals follow the norms even in private and when violations are difficult to detect and are not sanctioned.

To practice

Before implementing the intervention, SVdP received roughly 90 truckloads of junk donations per month. With the social norm intervention, SVdP handles about 45 truckloads of junk donations per month.

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In disaster settings: 60% of the in-kind donations are "completely useless" in the aftermath of a disaster (Holguin-Veras et al. 2016). The issue of junk donations is one of the most crucial, yet understudied, challenges in the context of disaster relief operations.

Thank you!

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