Final Report

Thomas Gao, Robert Hosbach, Devesh Khandelwal, Joe Mirza

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Abstract

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Introduction

A wealth of existing research shows that using monetary incentives can increase survey response rates (see Armstrong, 1975; Kanuk & Berenson, 1975; and Duncan, 1979). James & Bolstein (1992) found that an incentive of only $1 that was mailed with the survey significantly increased the response rate compared to people who received no incentive. More recently, Debell et al. (2020) found that including $5 of visible money in a mailed survey increased response rates from roughly 43% to 47%. Such studies have also been conducted on response rates for surveys administered to college students. For instance, Szelényi et al. (2005) found that $2 incentives lead to increased response rates among college students compared to no incentive.

This body of research suggests that direct financial incentives can lead to higher survey response rates. But, while direct financial incentives have been studied in depth, the effect of indirect, philanthropic donations are comparatively less well understood. Gattellari & Ward (2001) found that offering donations to Australian surgeons' alma maters actually led to lower response rates when compared to offering no incentive at all. Nesrallah et al. (2014) and Warwick et al. (2019) had similar findings in medical-related settings. Outside of the medical field, Pedersen & Nielsen (2016) also found that incentives promising donations to a good cause led to decreased response rates relative to no incentives in online surveys.

We conducted a field experiment to test the effect of two different incentives on the survey response rates from alumni of UC Berkeley's Masters of Information and Data Science (MIDS) program. One incentive (hereafter referred to as the "direct incentive") is a chance to be one of 10 winners of a $25 Amazon gift card if the alumnus completes the survey. This direct financial incentive is akin to the direct financial incentives discussed above. The other incentive (hereafter referred to as the "philanthropic incentive") is an opportunity to have us, the survey developers, donate funds to the Berkeley Student Food Collective (BSFC) if a sufficiently high survey response rate is achieved. While some studies found donation-based incentives counterproductive, our experiment takes a slightly different approach. Instead of promising a donation to BSFC for an individual's response, we will test the effect of survey response rates when individuals are told that the donation will only occur if a certain threshold of group response rate is met.

In this experiment, we evaluated the effects of the direct and philanthropic incentives to cause higher survey response rates when compared to a control group that received no incentive. All three groups were given the same Qualtrics survey that we distributed via one of our personal email addresses; however, only alumni in the direct and philanthropic incentive groups received text in their emails regarding the incentive they were assigned. We hypothesized that both the direct and philanthropic incentives would cause higher survey response rates among the MIDS alumni. As mentioned, direct incentives have led to increased survey response rates in certain contexts, whereas donation-based incentives have shown far less promise. Nevertheless, we still expected the philanthropic incentive to garner higher survey response rates relative to the control group for the following reasons: 1) The treatment is a group incentive rather than an individual incentive, and being part of a group working towards a common goal can be inherently motivating; 2) The certainty of the donation to charity when the threshold is reached might be preferred over the uncertainty of receiving a monetary reward; and 3) Knowing you are helping to donate money to a good cause can evoke a sense of meaning when compared to receiving money individually.

In the following section we describe our methodology for conducting this experiment, including the tools we used, our data collection process, how we dealt with attrition and non-compliance, and other details. Next, we report our experimental results and provide a discussion of their meaning and generalizability. We also discuss potential follow-on opportunities from this experiment. Finally, we conclude our paper and provide a series of appendices containing the email text we used, Python and R code we used for data collection and analysis, the actual survey, and a summary of the survey responses we received.

Methodology

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Results

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Discussion

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Conclusion

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References

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Appendix A: Emails

This appendix contains the initial email templates that were sent out to the control and two treatment groups of MIDS alumni on July 2, 2021, as well as the reminder email templates that were sent in subsequent weeks. Areas in the templates demarcated by "«...»" indicate dynamic fields that are filled in by YAMM as the email gets sent.

Initial emails sent on July 2, 2021

Control group

Hi, «Alumnus Name»:

We are a group of MIDS students conducting research to gather insights on the experience of MIDS alumni. Please take a 2-3 minute survey to provide your opinion of the program. The insights from this survey will help us understand the value of the program as perceived by you, the alumni.

If you complete the survey, we will send you a summary of the results.

The deadline to submit your survey response is Friday, July 23, 2021 by midnight (PDT).

Click here to take the survey and ensure your voice is heard.

Thanks for your time, Devesh, Robert, Thomas, and Joe

Direct incentive group

Hi, «Alumnus Name»:

We are a group of MIDS students conducting research to gather insights on the experience of MIDS alumni. Please take a 2-3 minute survey to provide your opinion of the program. The insights from this survey will help us understand the value of the program as perceived by you, the alumni.

If you complete the survey, we will send you a summary of the results and you will be entered to win an Amazon gift card for $25. Ten respondents will be selected at random to receive a gift card.

The deadline to submit your survey response is Friday, July 23, 2021, by midnight (PDT).

Click here to take the survey and ensure your voice is heard.

Thanks for your time, Devesh, Robert, Thomas, and Joe

Philanthropic incentive group

Hi, «Alumnus Name»:

We are a group of MIDS students conducting research to gather insights on the experience of MIDS alumni. Please take a 2-3 minute survey to provide your opinion of the program. The insights from this survey will help us understand the value of the program as perceived by you, the alumni.

If you complete the survey, we will send you a summary of the results. Additionally, if we achieve a 60% response rate, we will donate $250 to the Berkeley Student Food Collective.

The deadline to submit your survey response is Friday, July 23, 2021 by midnight (PDT).

Click here to take the survey and ensure your voice is heard.

Thanks for your time, Devesh, Robert, Thomas, and Joe

Reminder emails sent on July 9 and July 16, 2021

Control group

Hi, «Alumnus Name»:

We are a group of MIDS students conducting research to gather insights on the experience of MIDS alumni. On July 2nd we sent you a link to a 2-3 minute survey that allows you to provide your opinion of the MIDS program.

If you have not yet completed the alumni survey, this is a reminder that you have «14 or 7» days left to respond.

If you complete the survey, we will send you a summary of the results.

Click here to take the survey and ensure your voice is heard.

Thanks for your time, Devesh, Robert, Thomas, and Joe

Direct incentive group

Hi, «Alumnus Name»:

We are a group of MIDS students conducting research to gather insights on the experience of MIDS alumni. On July 2nd we sent you a link to a 2-3 minute survey that allows you to provide your opinion of the MIDS program.

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Click here to take the survey and ensure your voice is heard.

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If you complete the survey, we will send you a summary of the results. Additionally, if we achieve a 60% response rate, we will donate $250 to the Berkeley Student Food Collective.

Click here to take the survey and ensure your voice is heard.

Thanks for your time, Devesh, Robert, Thomas, and Joe

Reminder emails sent on July 22, 2021

Control group

Hi, «Alumnus Name»:

We are a group of MIDS students conducting research to gather insights on the experience of MIDS alumni. On July 2nd we sent you a link to a 2-3 minute survey that allows you to provide your opinion of the MIDS program.

If you have not yet completed the alumni survey, this is a reminder that you have 1 more day left to respond.

If you complete the survey, we will send you a summary of the results.

Click here to take the survey and ensure your voice is heard.

Thanks for your time, Devesh, Robert, Thomas, and Joe

Direct incentive group

Hi, «Alumnus Name»:

We are a group of MIDS students conducting research to gather insights on the experience of MIDS alumni. On July 2nd we sent you a link to a 2-3 minute survey that allows you to provide your opinion of the MIDS program.

If you have not yet completed the alumni survey, this is a reminder that you have 1 more day left to respond.

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Thanks for your time, Devesh, Robert, Thomas, and Joe

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If you complete the survey, we will send you a summary of the results. Additionally, if we achieve a 60% response rate, we will donate $250 to the Berkeley Student Food Collective.

Click here to take the survey and ensure your voice is heard.

Thanks for your time, Devesh, Robert, Thomas, and Joe

Final reminder emails sent on July 23, 2021

Control group

Hi, «Alumnus Name»:

We are a group of MIDS students conducting research to gather insights on the experience of MIDS alumni. On July 2nd we sent you a link to a 2-3 minute survey that allows you to provide your opinion of the MIDS program.

If you have not yet completed the alumni survey, this is a reminder that you have a few hours left to respond.

If you complete the survey, we will send you a summary of the results.

Click here to take the survey and ensure your voice is heard.

Thanks for your time, Devesh, Robert, Thomas, and Joe

Direct incentive group

Hi, «Alumnus Name»:

We are a group of MIDS students conducting research to gather insights on the experience of MIDS alumni. On July 2nd we sent you a link to a 2-3 minute survey that allows you to provide your opinion of the MIDS program.

If you have not yet completed the alumni survey, this is a reminder that you have a few hours left to respond.

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Click here to take the survey and ensure your voice is heard.

Thanks for your time, Devesh, Robert, Thomas, and Joe

Appendix B: Scraping MIDS Alumni Data

This appendix contains the Python script we used to scrape the name, email, and graduation date for each MIDS alumnus from the UC Berkeley School of Information website's people directory.

```python
from collections import namedtuple # Facilitate collect/convert into Pandas
import time # To pause between page loads

from bs4 import BeautifulSoup # To parse the HTML pages
import pandas as pd
# Selenium allows us to open a web browser and act on web pages programmatically
from selenium import webdriver
from selenium.webdriver.common.keys import Keys


# Open a Chrome browser
driver = webdriver.Chrome()

# This file contains a person's username and password
# (each on its own line) for logging into I-School
with open("creds.txt", "r") as file:
    creds = file.readlines()

# Navigate to login page and authenticate
driver.get("https://www.ischool.berkeley.edu/user/login?destination=home")
username = driver.find_element_by_id("edit-name") # Find the username entry
password = driver.find_element_by_id("edit-pass") # Find the password entry
username.send_keys(creds[0].strip()) # Fill in the username
password.send_keys(creds[1].strip()) # Fill in the password
driver.find_element_by_id("edit-submit").click() # Click the login button

# Navigate to first page of alumni, then pause for 5 seconds for loading
start_url = (
  "https://www.ischool.berkeley.edu/people?name=&role=126&degr=MIDS" +
  "&year%5Bvalue%5D%5Byear%5D=&spec=All&emp=&faculty_type=All"
)
driver.get(start_url)
time.sleep(5)

# Initialize namedtuple for data collection
Alumni = namedtuple('Alumni', ["name", "cohort", "email"])
# This list will store `Alumni` namedtuples for each person
all_data = []

# Scrape all data we can for each page
flag = True
page = 1
while flag:
    print(f"Starting page {page}.")
    # Get the HTML from the current browser page
    soup = BeautifulSoup(driver.page_source, 'html5lib')

    # This is a way to get a list of "chunks" of the HTML that
    # correspond to a given alumnus
```

```python
    data = [x.parent.text.strip() for x in soup.find_all(
            "div",
            class_='views-field views-field-field-profile-fullname')
    ]

    for person in data:
        name = str(person.split("\n")[0].strip()) # 1st item is always the name
        try:
            # If an entry contains "20," that's the cohort
            cohort = str([x.strip() for x in person.split("\n") if "20" in x][0])
        except IndexError:
            cohort = ""
        try:
            # If an entry contains "@," that's the email
            email = str([x.strip() for x in person.split("\n") if "@" in x][0])
        except IndexError:
            email = ""
        # Append an `Alumni` namedtuple for the person to `all_data`
        all_data.append(Alumni(name, cohort, email))

    try:
        # If there is another page of alumni, click the "next" button
        driver.find_element_by_class_name("pager__item--next").click()
        page += 1
        time.sleep(5) # Pause for not overloading server
    except:
        print("Finished with the last page!")
        flag = False

results_df = pd.DataFrame(all_data)
```

Appendix C: Qualtrics Survey and Results Summary

This appendix contains the actual Qualtrics survey that was sent to each of the MIDS alumni, as well as a graphical summary of the completed survey responses. Figure 1 is the screenshot of the Qualtrics survey that was sent to each of the MIDS alumni. Figures XX and YY are summary visualizations of the 229 responses we received from the MIDS alumni.
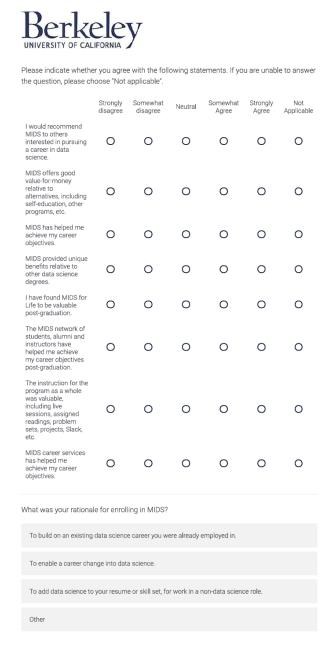

Figure 1: Screenshot of Qualtrics survey