

# Data Derby 2018

The Random Variables

Normandale Community College

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April 21, 2018

What are the greatest growth opportunities for new corporate teams? Can we apply those opportunities to specific rides/markets, especially our biggest events?

Top cities for turnout at MS Bike Events	Top biking cities <sup>1</sup>
Ocean City, NJ	Philadelphia, PA
Houston, TX	Tuscon, AZ
New York, NY	Austin, TX
Cherry Hill, NJ	Denver, CO
Burnsville, MN	Portland, OR
Castle Rock, CO	Louisville, KY
Denver, CO	Washington D.C.
San Jose, CA	San Jose, CA
Columbus, OH	Indianapolis, IN
San Francisco, CA	Chicago, IL

<sup>1</sup>Sola, K. (2016, May). *These Are The 10 Most Bike-Friendly Cities In America*. Retrieved from <https://tinyurl.com/yclsxrzp>.

# What industries have had the strongest involvement in Bike MS in the last five years?

Teams with an employer in the **Finance/Banking/Investments** industry and the **Technology** industry had the strongest involvement in Bike MS in the last 5 years.<sup>2</sup> Other industries with strong involvement include:

- Energy (including oil, gas, electric)
- Healthcare
- Management Consulting
- Education
- Government

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<sup>2</sup>Based on 67.9% of all companies in the data provided. We also included companies that donated at least \$100,000 in total donations over the last 5 years.

# What occupations were responsible for most of our fundraising?

Highest to lowest:

- Engineering
- Healthcare
- Information Technology (IT)
- Sales
- Executive/Management
- Education and Training
- Consulting
- Legal and Paralegal

# What occupations were responsible for most of our fundraising?

## Methodology:

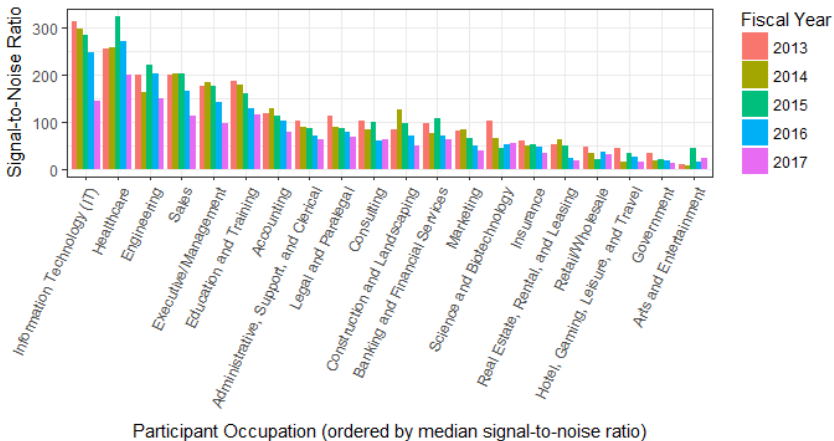
- (Modified) signal-to-noise ratio by occupation - calculates what occupation donated the most **reliably**:

$$\frac{\text{Total Donations}}{\text{Standard Deviation (Donations)}}$$

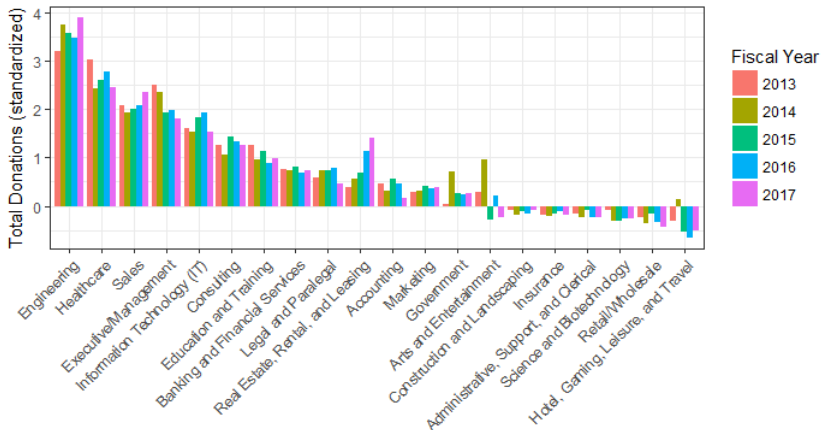
- Standardized total donations - calculates how much each occupation donated **in relation** to other occupations:

$$\frac{\text{Total Donations} - \text{Mean of Total}}{\text{Standard Deviation (Totals)}}$$

# What occupations were responsible for most of our fundraising?



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Participant Occupation (ordered by median standardized total donation)

# Can we tie together these industries and occupations to identify gaps/opportunities?

Highest consistently donating industries and occupations:

Industry	Occupation
Healthcare	Healthcare
Engineers	Technology
Real Estate	Management Consulting
Education	Education

In 2017, all of these industries had \$20,000-\$30,000 fewer in donations than in 2014-2016. Focusing on these industries and occupations for marketing would provide the most benefit.



# What are the greatest opportunities for digital marketing investments? Where have we seen the greatest ROI?

In FY 2015, the greatest ROI (based on total/gross spending and the (modified) conversion rate) has been from:

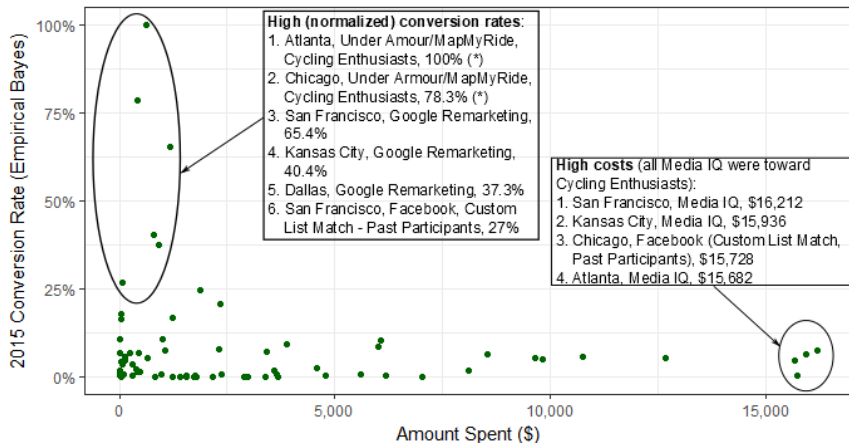
- Under Armour/MapMyRide, Cycling Enthusiasts, Web Interstitial:
  - Atlanta, Chicago<sup>3</sup>
- Google Remarketing (to users who visited the website but did not sign up), Display Banner:
  - San Francisco, Kansas City, Dallas

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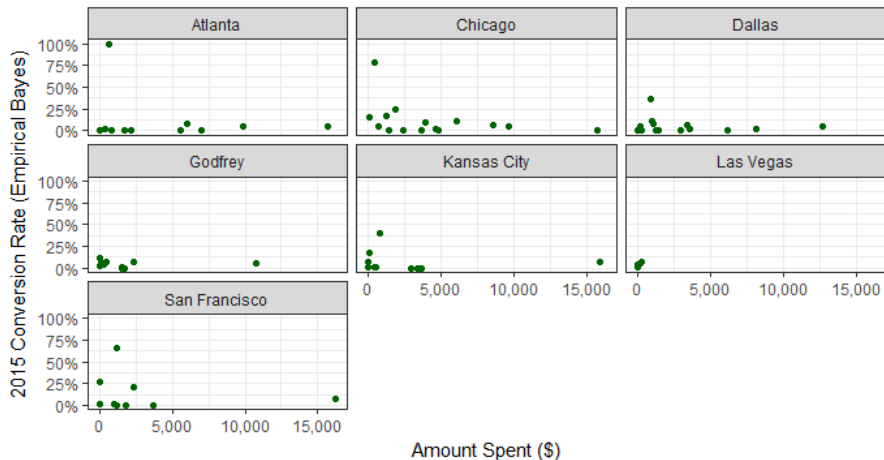
<sup>3</sup>Do not rely on high ROI for this campaign, as it's probably high due to the low number of clicks. (0 clicks for Atlanta, 5 for Chicago)

# What are the greatest opportunities for digital marketing investments? Where have we seen the greatest ROI?

More money spent  $\neq$  higher conversions (especially with Media IQ)



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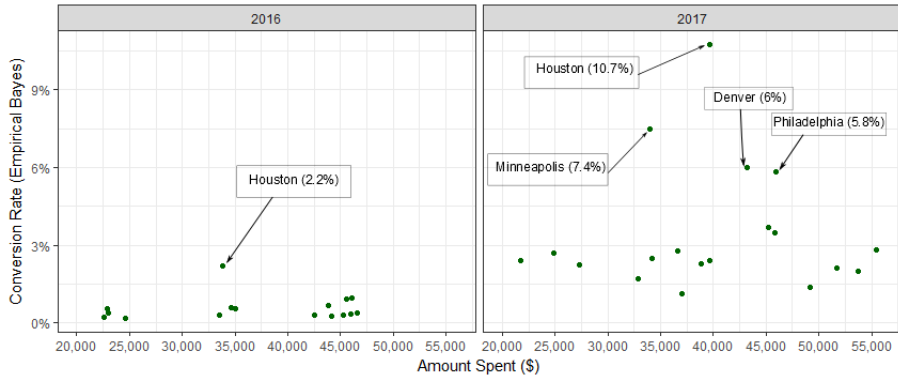
# What are the greatest opportunities for digital marketing investments? Where have we seen the greatest ROI?

Unlike the 2015 data, the data for FY 2016, 2017, and 2018 were not very detailed. The provided data were either:

- Combined by city, with advertising information lost (i.e., the platform, the audience targeted, etc.)
- Combined by the platform, losing information on what cities were targeted.

We focused on city-level data and used only 2016-2017 data, as the data were combined over the entire year (not comparable to FY 2018 to-date). These numbers are subject to a lot of noise because they consist of many components, and should **not** be considered indicative of an overall trend.

# What are the greatest opportunities for digital marketing investments? Where have we seen the greatest ROI?



# Can we quantify the effect competing events are having in our top markets?

For NMSS events in the top-10 performing states,<sup>4</sup> we looked at their top competitors.

- Top competing events occur 5-12 weeks before or after a top-performing event with the NMSS.
- The data publicly available does not lead to a comprehensive view of how competing events impact NMSS event donation amounts (i.e., lack of public bookkeeping records available).

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<sup>4</sup>Based on the donation total over the last 4 years.

## What is the common denominator for our top-performing corporate teams?

In the top 25 teams for donations over the last 5 years, the top corporate donors came from the Management Consulting and Technology industries. In most of these teams, at least half of all participants report having some connection to MS (friend, relative, etc.).



# Once someone is registered, what tactics and behaviors drive fundraising, and at what times leading up to the event?

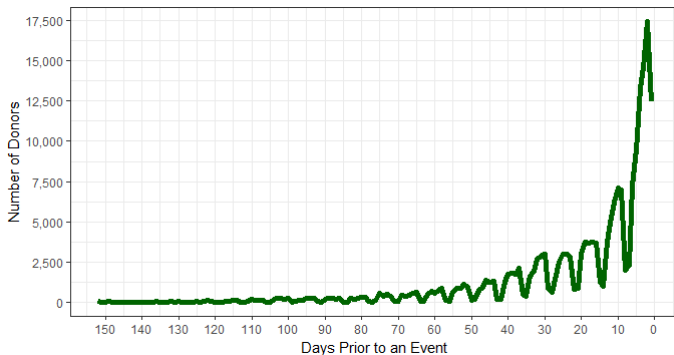
We don't know specifically what teams do to drive fundraising, but we do know:

- Most donors use donation-specific software such as Boundless Fundraising or Convio (now Blackbaud), or they donate through:
    - Google
    - Facebook
- or directly through the NMSS website.



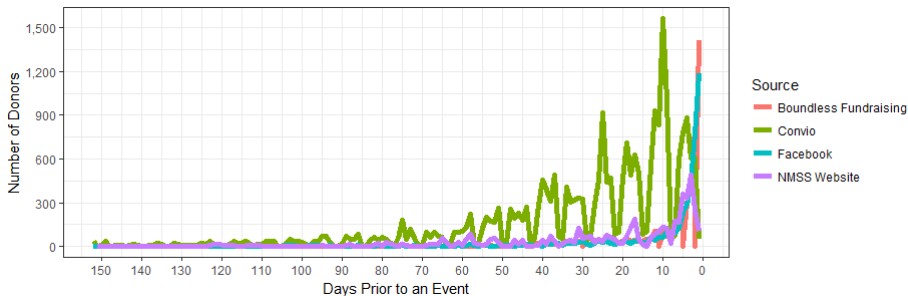
Once someone is registered, what tactics and behaviors drive fundraising, and at what times leading up to the event?

Most donations tend to occur within 10 days prior to an event.



Once someone is registered, what tactics and behaviors drive fundraising, and at what times leading up to the event?

Taking into account the source as well, Convio at 10 days prior to the event is by far the most popular time to donate, followed by Boundless Fundraising and Facebook within 1 day prior to the event.



# What behavioral data do you see about usage of our fundraising tools and how it may or may not relate to performance of top fundraisers?

We used the Google Analytics Pages data to gather data on traffic to NMSS websites with sid = 13249 for each event:

The screenshot shows the top section of the 2018 BP MS 150 website. On the left is the BPMS150 logo, which includes a stylized orange and green bicycle wheel and the text "BPMS150". To its right is the text "2018 BP MS 150" in blue. Further right is the BP logo, a green starburst shape with the letters "bp" above it. In the top right corner, there is a user profile icon and the text "WELCOME, YENG" followed by a red location pin icon and "MY PARTICIPANT CENTER". Below these elements is a navigation bar with five orange buttons: "About this Ride", "Rider Resources", "Register", "Volunteer", and "Donate". Below the navigation bar is a banner image showing people cycling, with the text "Tips & Tools" overlaid in white.

## Fundraising Tips & Tools

Every dollar raised helps fund critical research, programs and services for people affected by MS. YOU can be a fundraising powerhouse - just use these tips from other Bike MS fundraisers, take advantage of the resources available, and aim for the stars!

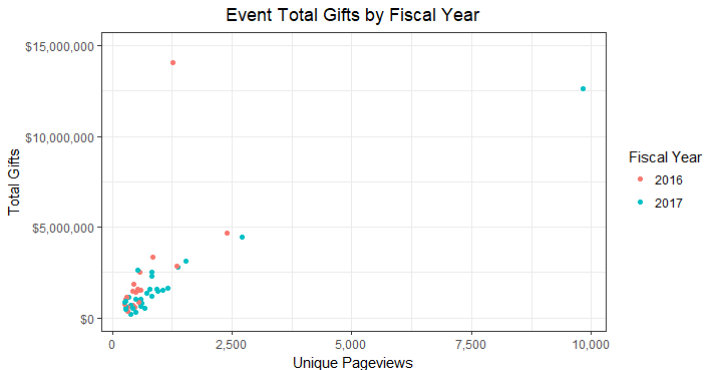
### Download the Donation Tracking Form

Our BP MS 150 donation tracking form will help you keep a solid accounting of your incoming offline donations and ensure a speedy crediting to your fundraising when you turn them in!

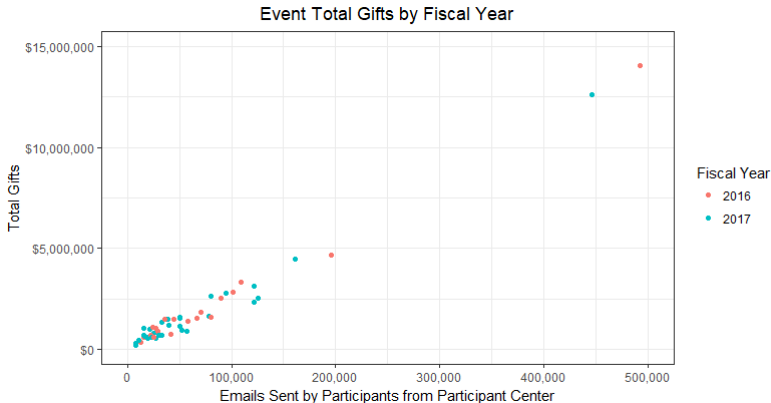
[Download the Form](#)

# What behavioral data do you see about usage of our fundraising tools and how it may or may not relate to performance of top fundraisers?

Using the data we were provided, we were able to match 51 events to these pages.



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We ran a linear regression model in R:

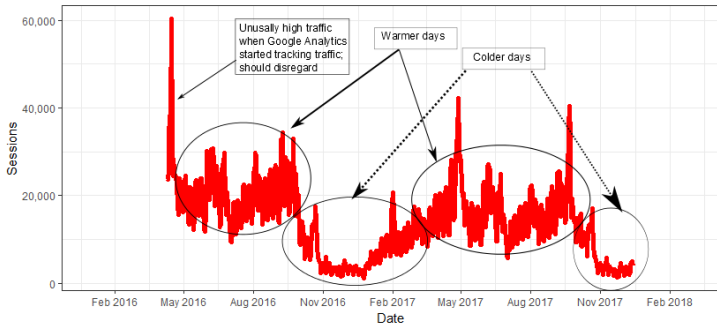
$$\text{Total Gifts} = \beta_0 + \beta_1 \cdot \text{Number of Emails Sent} + \beta_2 \cdot \text{Unique Pageviews} \\ + \beta_3 \cdot \mathbf{I}(2017) + \epsilon$$

$\beta$	$\beta_0$	$\beta_1$	$\beta_2$	$\beta_3$
Estimate	213,852.39	17.88	552.33	-155,315.12
$t$	2.38	10.44	3.84	-1.73
$p$ -value	0.02	< 0.001	< 0.001	0.09

Adjusted  $R^2$ : 0.9212

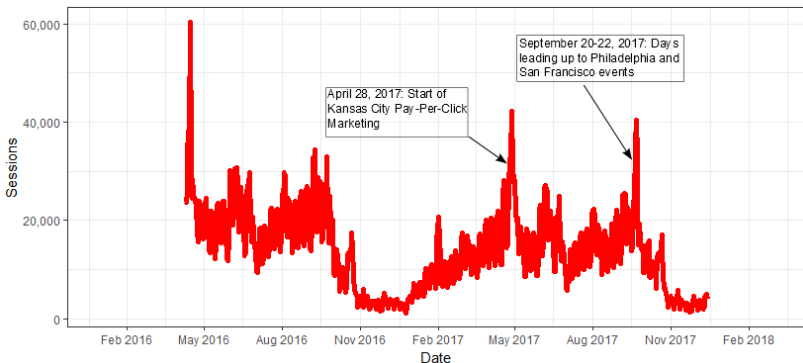
# Despite increasing our digital advertising spend, acquisition continues to trend downward overall. Why?

We suspect that acquisition has not decreased, and may only appear to have decreased due to seasonal changes. We suspect that this is because most people in the United States are not biking during the winter months. This is also indicative of how influential fundraising events are on general web traffic.



# Despite increasing our digital advertising spend, acquisition continues to trend downward overall. Why?

Despite this, there are some anomalies in the session counts that are worth noting:





# Despite increasing our digital advertising spend, acquisition continues to trend downward overall. Why?

As we saw from the FY 2015 digital advertising analysis, more money spent  $\neq$  higher conversions.

As you studied the data provided, is there something else that came up as an insight into our operations that the questions above do not capture?

- Oil and Energy donors donate the most of any donor who reported an employer.
- Of all donors (employed and unemployed), retired donors donate the most.

Questions?