

Pro Bono Analytics

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What is Pro Bono Analytics?

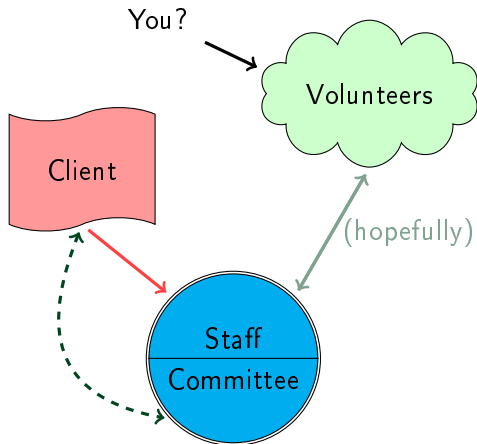
- INFORMS members (and non-members) volunteer to work with charitable organizations
- Charitable organizations (“clients”) request analytics help
- Central committee assists clients with formulation and scoping of requests
- Volunteers provide their services free
 - Necessary expenses covered by clients
- Win-win
 - Clients receive free/low-cost assistance
 - Volunteers gain valuable real-world experience, do something worthwhile

- Other organizations already engage in similar endeavors
 - Médecins Sans Frontières(founded 1971)
 - Engineers Without Borders USA(incorporated 2002)
- Operational Research Society (UK) Pro Bono Operational Research
 - Free consultation to “Third sector” agencies
 - Launched September 2013
 - Very successful

- Public Sector OR section
- “Doing Good with Good OR” competitions
- Pro Bono Analytics
 - 2014: “OR Without Borders” proposal from Michael Johnson (UMass-Boston) and David Lovell
 - Board approved funding for 2015 to test concept
 - 2015: Ad hoc committee got ball rolling
 - 2016: Work in progress
 - Funding for one staff member
 - Initiated some projects
 - Expanded the committee
 - Hoping to move from “strategic initiative” to “program”

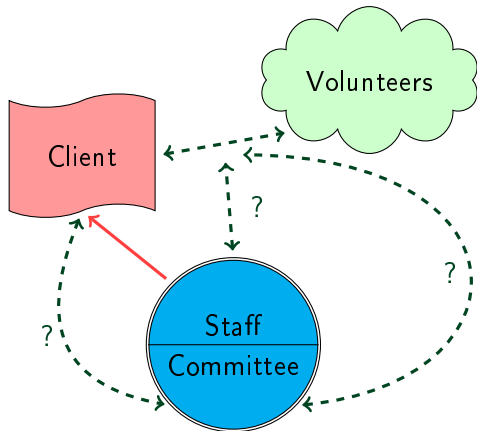
Process (I)

- 1 Volunteers register (with brief bio), are added to mailing list
- 2 Potential clients contact us (web form) with expression of interest
- 3 Committee conducts “scoping call” with client
- 4 Client submits project request form(s)
- 5 Committee reviews form(s), consults with client as needed
- 6 Request for volunteers sent to volunteer mailing list
- 7 Volunteers express interest to PBA staff



Process (II)

- 8 Volunteer info passed to client
- 9 Client selects volunteers of interest
 - May consult with committee
 - May choose > 1 volunteer
 - Committee does *not* choose volunteers
- 10 “Engagement call(s)” between client and volunteer(s)
 - Staff and/or committee may participate
 - Client, volunteer(s) agree on scope, terms etc.
- 11 FUN BEGINS!



Current Status

- Approximately 175 volunteers as of late February (57% INFORMS members)
- 20 initial client contacts as of early April

1	2	3	4	5
Initial contact	Scoping	Project request form	Out to volunteer list	Selecting volunteers
3	1	2	1	2

6	7	8	9	-
Engagement call	In progress	Completed	POSTPONE	DROP
2	2	-	2	5

Sample Engagements

- Spectrum Works (northern NJ)
 - Job training for young adults with autism spectrum disorder
 - Needs help pairing and scheduling supervisors and students
- Community Empowerment Solutions (HQ in NY; operates in Guatemala, Ecuador, Nicaragua, The Dominican Republic and Haiti)
 - Trains/equips local entrepreneurs to sell affordable, high-impact technology products in under-served areas
 - Needs help designing, administering and analyzing surveys to assess project success, products that do/do not produce impact, . . .
- Family Service of Greater Boston
 - “[H]elps children and families facing life’s most difficult challenges”
 - Currently: data collection is uncoordinated, reporting is a “scramble”
 - Need help with: identifying a data management strategy; building a data repository and access methods/protocols; collecting data (if they don’t have it); analyzing data

You're Thinking

“Big” data

Optimization/Simulation/...

Machine learning

Stochastic multiobjective ...

Custom programming

My value = domain expertise

Reality Is

Unruly data

Basic data analysis

Summary statistics, regression

Good solution quickly/cheaply

IT dept. = someone's 12 y.o. kid

My value = “systems thinking”

Why Volunteer?

- Do something different
- Make a difference
- Give back
- Experience challenges of analytics in the “real world”
- Course credit/project?

- Web site (on later slide)
- Volunteer mail list
- Pro Bono Analytics “Community” on INFORMS Connect
 - Need to get more volunteers on it
 - Place to post messages to other volunteers
 - Library for uploaded files
 - Currently: some helpful documents from the OR Society
- Sessions at INFORMS meetings

Ad Hoc Committee

- **David Hunt** (chair): VP of Chapters & Fora; Strategic Planning committee; Committee on Engagement with Organizations; past chair Railway Applications and New Jersey chapters; Oliver Wyman
 - **Victoria Chen**: founder, INFORMS Workshop on Data Mining and Artificial Intelligence; co-Founder, INFORMS Section on Data Mining; University of Texas-Arlington
 - **Jim Cochran**: chair *OR/MS Today* and *Analytics* committees; founder ASA Statistics Without Borders; University of Alabama
 - **Arnold Greenland**: CAP, Analytics Conference committee; University of Maryland
 - **Michael Johnson**: VP-elect Chapters & Fora; past president SPPSN (now Public Sector OR); University of Massachusetts-Boston
 - **Paul Rubin**: IT committee drone; Michigan State University (emeritus)
 - **Rina Schneur**: past INFORMS President; Continuing Education committee; formerly with Verizon
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- **Jeff Cohen**: INFORMS Director of Marketing
- **Terry Cryan**: INFORMS staff lead; former Director of Meetings



- Tell your OR/IE/MS/analytics friends about Pro Bono Analytics
- Tell charitable organizations about it

Pro Bono Analytics home page

<https://www.informs.org/Pro-Bono-Analytics>



Volunteer sign-up page

<https://www.informs.org/Pro-Bono-Analytics/Sign-Up-to-be-a-Pro-Bono-Volunteer>



Connect group

<http://connect.informs.org/communities/community-home?CommunityKey=e9da7d24-226e-42ce-b5e4-4024368efe4f>

