MaRS 2017 Venture Client Annual Survey - Methodology

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TYPES OF DATA COLLECTED

Several different types of data are collected in the annual survey. These include:

- Likert scale variables. Typically these are opinion questions set on a 1-5 scale. Examples include "Likelihood to recommend MaRS services," "Importance of MaRS services," and "MaRS Impact on success." As well, NPS (Net Promoter Score) is also collected for MaRS overall.

- Categorical variables. Clients are asked to indicate which group they belong to among a set of mutually exclusive options. Examples include "What is the status of your venture? (Active / Ceased / Acquired)" or "What are the most important future services that MaRS could provide?"

- Binary variables, such as yes/no questions. For example, determining if their business was founded to address social or environmental impact as part of its core mission and vision.

- Multi-pick variables where the respondent can choose more than one category or variable, such as choosing kinds of social impact (environmental, gender equity, employment) if they are a social enterprise.

- Quantitative questions. Clients were asked to fill in a number corresponding to their employment, revenue, funding or year incorporated.

- Open-ended questions. A "fill in the blank" box asking for a free-form response. Typically used to solicit additional opinions and feedback not captured in closed-end questions (e.g., "Please explain your answer on the impact that MaRS Discovery District has had on your venture's chance of success?")

SOFTWARE AND LOGISTICS

- The MaRS annual venture client survey was deployed March 15, 2018 and ran into April 2018. Surveys were sent directly to and responded directly from ventures.

- Respondents were asked to report data for the one-year period ending December 31, 2017.

- The survey was sent by email to 1,152 ventures with a total number of respondents being 434 (38%).

- The survey tool of choice was SurveyGizmo, a commercial survey research tool employed by many large organizations with robust data analysis features.

- After the survey was completed, the data was extracted, loaded and stored in a Microsoft SQL Server database hosted on a hosted cloud environment maintained by Data Catalyst and their IT department. Although MaRS and Data Catalyst share a common IT subcontractor, non-Data Catalyst staff do not have direct access to the Data Catalyst servers.

- The analysis was conducted with "R", a statistical programming language and Python.

EXTRAPOLATION

Because the survey is not a random sample of our population, we are not able to assume that non-respondents are similar to respondents. Additionally, the distribution of the key variables of interest for extrapolation - revenue, funding and jobs - follows a "power law" or "long tail" shape, where a very small number of ventures are responsible for a majority of the substantial values. Because outliers drive the aggregate totals, we did not attempt to extrapolate these out to a larger population.

RESPONSE RATES

The response rate of 37% is consistent with last year and is above average for web surveys; As per SurveyGizmo, the average response rate is 10-15% while phone surveys used for polling and consumer research are often at 10% or below.

The initial target list for MaRS venture clients was extracted from the MaRS CRM database and verified by each relevant MaRS sector (Work & Learning, Finance & Commerce, Energy & Environment and Health). The list was in compliance with the Ministry of Research and Innovation policy, which outlined that target lists for the annual survey include (1) currently active clients, as well as (2) all new clients acquired in the fiscal year. Furthermore, the ventures were those that agreed to receive communications such as survey links, in accordance with Canada's anti-spam legislation (CASL). Finally, the ventures met the definition of "active ventures" as agreed on by working groups in which MaRS participated, such as those created by the Innovation Data Partnership Ontario (IDPO). Regardless of the aforementioned restrictions around the creation of the list, it was robust and minimized the number of bounced emails.

The response rate is calculated using the number of responses (numerator) divided by the total (denominator):

Responses (Numerator): The number of distinct companies that appear in the Answer table who have an answer associated with at least one question beyond the questions that appear on the initial two pages of the survey, which are administrative and automatically populated. This effectively excludes companies that opened the survey and closed it before getting to the consent page but includes companies that answered the consent question (including those who said "I don't give consent").

Total (Denominator): The number of distinct companies on the support organization's target list (in this case MaRS Discovery District, MaRS Centre for Impact Investing, and the Ontario Scale-Up Voucher Program) whose Company ID appears in both the Target List and the Response Status Report generated by SurveyGizmo, where response status does not equal 'Unsent'. This will result in some companies that were originally on a target list not being included in the total (denominator) because they were not sent a survey. This could happen for multiple reasons

(e.g., they unsubscribed from SurveyGizmo emails sometime in the past or their email was not accepted as valid by the SurveyGizmo platform, etc.).

ITEM NON-RESPONSE

For the survey, only certain fields were mandatory, based primarily on what was reasonable to complete. These included the venture name and contact information, funding, patents and revenue information. Fields that were not deemed mandatory were former venture names, postal code, demographic information, venture status, employment and satisfaction scores.

Responses were removed in instances where entry error was identified (e.g., where a venture indicated more founders under the age of 29 than total founders at the company. Such instances are noted where applicable.)

Responses were also removed where respondents explicitly indicated that they did not consent to their data being used. In cases of ambiguity (where no consent data was collected) respondents were assumed to have provided consent.

A limited number of duplicate responses only exist where ventures submitted two survey responses using separate survey links. Such duplicates are not anticipated to have a noticeable impact on aggregate figures. These are resolved especially for jobs, funding and, revenue and not double-counted.

For applicable questions, calculations were completed after "don't know" responses were filtered out. As a result, the totals used for percentage denominators do not include these responses.

FOLLOW-UP AND QUALITY ASSURANCE

Third-party financial data (from sources including CrunchBase, CB Insights, and CVCA) was added when data was not provided or available from survey responses, IAF, or other supplemental data. In other words, when no direct survey response was provided, and no IAF data was available, whatever private investment data was found for that venture for the relevant timeframe was added to the survey results. Survey data was augmented in the following manner:

Source, by priority	Funding Amount Percent	Revenue Amount Percent	Jobs Amount Percent
IAF	12%	15%	16%
MaRS data	10%	43%	11%
Annual survey	37%	42%	49%
Third-party data	41%	0%	24%
Total	**100%**	**100%**	**100%**

Investment Accelerator Fund (IAF) data was also added to the MaRS internal and board reporting, which affected jobs, funding and revenue numbers. Furthermore, in the case where a respondent answered the survey, but it conflicted with the IAF's own data, IAF's data would replace the original respondent data. In all, 79 IAF clients either supplemented or replaced MaRS survey data. All of IAF's clients that were supplied to Data Catalyst were used for this enhancement. Funded by the Province of Ontario, the IAF program is managed by MaRS and delivered through the Ontario Network of Entrepreneurs.

Additional data added for the purposes of MaRS internal and board reporting also included ventures derived from MaRS data, such as reporting used for CAIP (Canadian Accelerator Investment Program), OSVP (Ontario Scale-Up Voucher Program) and CRM data. In all, this provided 59 clients which either added to or updated annual survey results.

Some metrics (for example, founder demographics) could include ventures that belong to CII and are not strictly MaRS ventures.

REPRESENTATIVENESS

Because certain variables do not have outliers due to the scales used, we consider them more robust estimates of the overall population of MaRS ventures. It is unlikely that a complete census of MaRS ventures would reveal significantly different proportions by gender, age, experience or nationality.

Because of the preponderance of accelerating ventures answering the survey, attitudinal questions may or may not be representative of the larger population. Venture ratings of the importance, satisfaction and impact of MaRS are consistently high, but it's possible that sampling bias influences these values higher than the overall population.

As discussed above, financial and employment metrics are not representative of the larger population and should not be used for inference or extrapolation.

DEMOGRAPHICS

Demographics are reported at the level of the venture, rather than the individual. Because ventures can have multiple founders, this was asked as a single variable indicating the overall composition of the company. For reporting, rather than reporting the number of men and number of women founders, we reported the number of companies with all male founders, all female founders, or a combination of male and female founders. A similar method was applied to the other demographic questions: nationality, youth (<30 years old) and entrepreneurial experience. New to this year were demographic questions aimed at better understanding leadership teams, as well as founders.