

Increasing gender diversity at SETsquared incubation centres

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INTRODUCTION AND OBJECTIVES

This report has been prompted by observations about the general lack of women as founders or co-founders in companies supported by the SETsquared partnership, or as attendees at workshops and networking events. The objective of the internal working group is to identify and implement some achievable actions so that SETsquared can work towards becoming 'best in class' in facilitating and supporting female founders and co-founders of high growth tech companies.

The project is timely and well aligned with initiatives from central government, the commercial sector and research universities to address gender imbalance. Martha Lane Fox's recent Dimbleby Lecture¹ identified the question of; 'How to get more women into technology?' as being key to the digital future of the nation. SETsquared is well placed to accept this question as a direct challenge and to lead the way in addressing it through the framework of entrepreneurialism.

WOMEN IN STEM & TRENDS IN TECH INNOVATION

SETsquared's current membership for 2015/16 indicates that women average 10% across all centres as founders or co-founders of member companies.

When compared to other incubators that were studied for this report this places us at the lower end of the scale in terms of diversity metrics*Appendix B. It's important to recognise that SETsquared's foundations are as a technology business incubator with a remit to support STEM related ventures; already an area in which women are not well represented. However, when considering the metrics in comparison to broader trends, the statistics prompt closer evaluation.

Our research shows a visible drain of women from the technical SET subjects in the traditional path towards entrepreneurialism as summarised in Table 1. Although SETsquared can take steps to support educational initiatives to promote STEM for girls at pre-university level, we cannot solve broader diversity issues in society that may affect our pipeline of founders with an educational STEM background.

However, whilst it's an important issue and our limitations should be noted, it should not become a justification for inaction.

Percentage of women	Career stage	Reference
42.4%	University entry level requirements	(Martin, 2010) ²
33.5%	Studying SET subject at university	(Martin, 2010)
20%	SET employees	(Martin, 2010)
16%	SET professionals in 2014 (unchanged from 2009)	(Office for National Statistics, 2014)
9%	R&D employees in innovative companies	(Wynarczyk, 2010) ³
3%	New tech start-up founders	(Klein, 2013) ⁴

Table 1: Reduction in representation of women in STEM subjects at different career stages

This report recognises that founders tend to form companies around their own pre-existing expertise or within their own field. Therefore, experience in, or at least access, to a science, technical, engineering or maths (STEM) skill set would traditionally be an assumption and pre-disposition for establishing a tech company. This is still a key driver for SETsquared and the success of our incubation centres (263 high tech, high growth tech start-ups since our launch in 2003) and research commercialisation programmes justifies our ranking as the leading world's leading university incubator (UBI Index 2015).

However, over the past decade, the trend in innovation and entrepreneurialism in tech has broadened significantly. This is particularly true in the area of computer tech that has evolved from its foundations in systems, hardware and silicon towards the application and productisation of that technology for the end user. These technological innovations are driven by everyday 'problems' and have a huge social, economic and environmental impact. SETsquared acknowledges that there is more imperative than ever that the diversity of the end users is reflected in terms of the founders and teams that drive technological innovation.

The good news is that changes are happening on a global scale to redress the balance and are being driven from the ground up; tech industry news site and start-up database, CrunchBase⁶ began a comprehensive study of female entrepreneurship by expanding their dataset to include gender for the periods of 2009-2014. They published a report earlier this year that found that the percentage of female founders among start-ups nearly doubled in 2014.

For SETsquared this is a timely opportunity to optimise our touchpoints and incubation services to attract, welcome and support the growing numbers of female tech entrepreneurs from the student and wider communities that we serve.

SUMMARY OF RESEARCH & METHODOLOGY

Internally we surveyed 40 tech founders and co-founders from the SETsquared pool of members, alumni and associates with a 50:50 male/female split. The survey focused on entrepreneurial challenges as well as touchpoints, access and value of incubation. We also polled these members about their opinion on 'female only' initiatives and asked for subjective comments to support their responses.

As background and to contextualise our own metrics we looked at recent publications, articles and online sources, and conducted interviews with globally recognised, university associated, business incubators (See Appendix B).

The research broadly addressed and surveyed the following areas:

- Policies and processes: application, conversion, retention of members
- Culture and perception: benchmarks, expectations and communications

APPLICATION AND CONVERSION

Building the pipeline

Most of the SETsquared centres report that they are over-subscribed and that they have a consistent number of applicants. However applications are primarily by male entrepreneurs and the 'lack of applications by women' is cited as the most significant reason for there being a low number of female members by our centre managers.

Our statistics show that we do not historically have a good track record of attracting applications from female entrepreneurs but that it may be improving. In the past 12 month applications from women averaged circa 19% across all centres; but the historic average is closer to 8%.

This is a positive trend but in order to maintain momentum the emphasis must be on widening the funnel and being pro-active in our recruitment. This should result in the general level of applications going up and, with targeted recruitment and marketing, the proportion of applicants from women.

AVOIDING PATH DEPENDANCY

"Certain groups just don't think they will be the next Zuckerberg because he is white and male and they are not." INTERVIEW WITH CEO, WAYRA

In our internal survey, word of mouth referrals either by an existing member or another business or individual is by far the most common way that new members find out about a SETsquared centre.

Combining referrals from existing members and associated companies or individuals currently amounts to 52% of all new engagements. The percentage is similar for both men and women which suggests that the channel is highly effective and powerful in terms of recruitment. However it also means that there is a danger that the 'status quo' will be maintained as, with women currently making up only 6% of the membership base, the referral network is self-limiting.

TOUCHPOINTS

From the incubators that we spoke to, we found that the ones that actively try to raise their proportion of female founders use a wide variety of routes and success is a lot about 'communications', 'legwork' and 'peer networks'.

At the point of applying to an incubator, unconscious, stereotypical biases are shown to be powerful. In order to feel welcome some female applicants expressed the need to see other women at the point of application, represented in the same capacity in which men are represented i.e. as start-up founders.

Given this context, the communication and workflow between the SETsquared centres and prospective applicants is very important e.g. at specific touchpoints such as the online application form to become a member, the reception and public areas of incubation centres, and the outreach efforts of the centre teams in terms of media and networks.

TRENDS

Techstars Barclays cited specific actions that they took that increased the proportion of women in the applicant pool from 0 to 15%:

- ✓ Showing up at Girlgeek events;
- ✓ attending a women's tech event at the Google campus;
- ✓ attending female tech meetups;
- ✓ reaching out to women tech groups and events,
- ✓ particularly on social media;
- ✓ making announcements in Ada's list newsletter and other mainstream newsletters
- ✓ holding an event with a deliberate all Female VC panel.

NETWORKS

At the moment our audit of centres reveals that, at a community level, we do very little to actively engage with organisations such as *Girl Geeks* or *Girls that Code* beyond hosting their meetups and events, and do not have *formal* links with organisations that promote female entrepreneurship or women in STEM like *Women in Science and Engineering (WISE)*.

More can also be done to emulate incubators such as Mass Challenge who highlight the value of outreach at the ideation stage through offering drop in workshops and mentoring sessions. There is also an awareness that women may be motivated to start tech businesses for different reasons than men. Our research with other incubators backs up academic research showing that women tend to rate societal impact very highly. As SETsquared grows support in this sector through its hubs or in partnership with social enterprise organisations we may well see a rise in applications from women founders as a direct result.

UNIVERSITIES AND RESEARCHERS

"Reach into science and engineering courses and push for female founders, via female faculty staff members recommending names. Also you want to select high potential women, these will ultimately be more successful and promote the conversation. They're there, you just need to find them and have that dialogue."

INTERVIEW WITH EIR MARTIN TRUST CENTRE FOR MIT ENTREPRENEURSHIP

Within the universities our track record for engagement is good and awareness of enterprise activities both for female undergraduates and researchers is high. Overall universities are the second most important source of new applications for SETsquared (although this does differ per centre depending on the remit with regards student vs community startups). Our data shows that women are well represented at student enterprise events and engagement can be over 40% - 50% at the application stage.


Similarly the first year of the ICURe project has proved to be highly effective at attracting female founders with 29% of the successful teams from the first five cohorts (84 teams) being led by female researchers. The key here in terms of realising the value of the pipeline, is to provide continuation of service from campus to the centres so that we can optimise the momentum of growth for these entrepreneurs and help to realise markets and funding for their businesses.

MARKETING AND IMAGERY

Online and offline communications are done by both the central SETsquared PR team and the centres themselves.

The use of language and imagery in brochures, in marketing is, unsurprisingly, key to demonstrating that SETsquared already supports female tech entrepreneurs and positively promotes existing members as role models. The images and initiatives portrayed on an incubator web page may well play an important role in choosing whether to apply for membership.

The advice from Mass Challenge who have been hugely successful in attracting female founders (44% of intake) was to 'not shy away from bias marketing in favour of women...don't just make it neutral as this doesn't do anything - be bold – you won't lose the men but you will gain the women'.



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Mass Challenge UK, a Facebook post with the accompanying photo below, entitled "Female Founders, We Want You" had three times the conversion rate than any other advert previously placed.

Conversion to membership

SCREENING AND ACCEPTANCE CRITERIA

It's important to note that widening the funnel to attract more applications from a broader audience does not imply an adverse effect on the quality of our incubation services. SETsquared companies are

selected for incubation based on the high tech, high growth potential of both the business proposition and the founding teams – and we have a good track record of doing this well. Whilst our application and conversion metrics suggest that we do not discriminate at the screening stage (statistics show an equal ratio of applications to accepted members for female as well as male applicants). What may be less formalised and potentially a wasted opportunity in terms of building a more diverse pipeline for the future is how we deal with applicants that ‘fail’ the screening process.

SETsquared centres follow a common screening process. Usually the application will come via the centre as a referral or personal introduction. The business development team will review applications, do face to face interviews and make a decision in relation to current membership levels and centre capacity. In our survey, centre managers report that the rejections of applicants are either because the applications do not meet SETsquared criteria or that the founders are not ‘*convincing*’ enough.

This could relate to how SETsquared is perceived in terms of the services it offers and its ‘mission’ as an incubator; which might be because of a lack of clarity of information or criteria that is required on the application form. Alternatively it could be because the entrepreneur has not fully formulated the proposition or is too early in the ideation stage; in which case it would be good to continue to foster the relationship.

PRE-INCUBATION

Other incubators provide ‘pre-incubation’ programmes which vary from intensive bootcamps to drop in mentoring sessions as a way to continue the relationship with a ‘failed applicant’ in the belief that it may be a timing and/or skills issue rather than a lack of potential in either the idea or the entrepreneur. SETsquared has proved to be expert in designing programmes that develop and foster an ‘entrepreneurial mindset’ eg. the week long Entrepreneurship Course (for community start-up founders), the Researcher to Innovator R2I boot-camp for university researchers or Bristol’s ‘2 day Bootcamps’ for new starters.

Therefore to ensure a continuation of contact and provide a low level of skills training to a broader audience, SETsquared could offer

‘lite’ (one day or two half day) versions of these courses. This would be an effective way to address the diversity issue by increasing the volume of credible applications across the board; whilst still, importantly, assuring quality.

TRENDS

WAYRA are planning a pre-accelerator, where they start a “dating relationship” for three months with a potential founder, giving them access to all the resources they would have if they were accepted on to the next cohort. At the end of three months, if they have hit the required milestones they will be formally accepted onto the next cohort.

Techstars Barclays have weekend or week-long events that enable potential founders to “try out” starting a company before leaving their job.

RETENTION - ACKNOWLEDGE THE DIFFERENCE

WOMEN ONLY INITIATIVES?

Overall there is acknowledgement by all respondents to the survey that there needs to be more done to engage, support and motivate women as entrepreneurs, and that sometimes this needs to be done in a pro-active way by highlighting the differences between male and female entrepreneurs.

The majority of female SETsquared founders surveyed (65%) support 'women only' initiatives however they cautiously caveat their support with 'it depends on the event', for example; 'women only calls for applicants' are not popular as they imply that different metrics are applied.

This is backed up by our research and survey of other incubators. Every interviewee was extremely cautious of singling out women for any reason, and this contributes to the general lack of metrics on diversity. Techstars have only recently included the publication of their annual data in their diversity commitment.

As our own survey of members backs up, exclusively female events are disliked by both the staff and entrepreneurs. Tokenism is to be avoided at all costs and there is a strong emphasis on maintaining the quality of all supported companies.

In general organisations with a good gender balance described events that celebrated female entrepreneurship as being organised by existing founders or being led by women but not exclusive to women delegates. Organisations with a poor gender balance described the management planning of these in a top down approach.

The general conclusion appears to be that successful peer led events to publicise and celebrate female entrepreneurship tend to be an outcome, not a causative agent, from increasing the proportion of female founders.

As such SETsquared should;

- support and actively encourage, initiatives driven from within the incubator by female members and staff;
- work towards identifying and setting up formal relationships with key influencers, existing organisations and events re. women in STEM and in entrepreneurship.

TRENDS

21% of Y Combinator's cohort in 2015 included a female founder. This is a result of the firm making efforts over the last two years to be more inclusive through events like the Female Founders Conference.

They have recently started piloting 'Open Office Hours' to increase access to EiR's and mentors.

TWEAK THE SUPPORT: THE PIPELINE IS NOT THE ONLY ISSUE

“Men are much more likely to say “yes, I can do that”; whereas women are more likely to evaluate the pros and cons” to the point where they may “burden themselves with as many parachutes and safety nets as possible”.

INTERVIEW WITH DIRECTOR, ACCELERATE CAMBRIDGE

Research shows that once inside incubators and as active founders, women are highly responsive to opportunities for professional development and mentoring, and tend to take full advantage of the support offered particularly at the early stage of the business cycle.

However the reported average length of membership is 63% that of male founders (*data only available for Bristol centre*) which implies that the support that we offer at SETsquared may not be as effective for female founders. The challenge here then is about retention and maximising potential once women are engaged with the incubator.

As a result of surveying our own members we have identified some tangible areas to focus. It's important to note, however that the data shows certain trends but does not indicate a definitive male and female 'type' when it comes to entrepreneurship. Recommendations are generally about placing extra emphasis on certain elements within the standard menu of support services (e.g. financial modelling, resilience training, pitching to investors) rather than setting up 'women only' modules or services

In terms of personal challenges, women tend to be more ready to admit to finding challenges 'hard' overall which could point to a skills shortage; although equally could reflect a tendency to be more honest about areas of weakness. Either way it underlies the importance of taking regular surveys of members' needs and to focus the support accordingly.

LEAD BY EXAMPLE – DIVERSITY IN SETSQUARED TEAM

In 2014/15 SETsquared has a good representation of women in senior management roles and in the business support network. However our mentor pools, at only 6%, have a noticeable lack of female members and there is much room for improvement.

Our research has shown that incubators that have a good track record of attracting female founders for tech-based companies are generally those that internally have gender balanced management teams, a noticeable proportion of *existing* female founders, female business advisors and representation in mentor pools. This 'pay it forward culture' gives an optimistic outlook as it implies that change effects

change and if diversity is pro-actively sought in terms of applications, it will have a long tail in terms of peer networks and organic growth in the medium to longterm.

SUMMARY

This project has examined activities at leading incubators through interviews and published literature, and mapped that against our own metrics at SETsquared.

In summary, we have identified the importance of outreach to attract a more diverse pipeline of applicants, and an acknowledgment that diversity brings differentiators. Responding to the differentiators is key to understanding where to make small changes that will have a big impact.

There are strong links between the internal diversity of any incubator and its ability to further attract a diverse pool of candidates in the future. The key is to be pro-active to seed the change. Once awareness is raised and an effort to work towards greater diversity becomes the *new normal*, the evidence shows that key best practices are highly effective.

APPENDIX A: RECOMMENDATIONS (INTERNAL)

Recommendations + target outcomes

A. CENTRAL TEAM

Owners – KB (Central), Actions shared by Central PR team, RB (Bath) and NC (Exeter)

Action	Target outcome
Ensure as much as possible that there is female representation on panels and speaker slots	1+ woman becomes 'new normal' – panels, speakers, judges
Audit SETsquared website and brochures for unconscious bias and make neutral language and imagery a default.	Audit completed by end May 2016. 6 monthly reviews
Set up area on SETsquared website to showcase initiatives and partnerships for Women in Tech	Deliver by end June 2016
Set up formal links between SETsquared and organisations that promote women in STEM and women in entrepreneurship eg. WISE, Geekgirls, Women in Engineering	Collate list of targets and prioritise; 2 x collaborative partnerships in place by end June 2016
Pilot a pre-incubation short 'taster' version of Entrepreneurship programme for first time applicants that show good potential (both for community / campus entrepreneurs). Format: 1 days or 2 days part time.	Set up workshop with reps from centres and campus to explore idea –Seek further budget to implement

B. CENTRES:

Owners – AH (Bath), KD (Bristol), AS (Southampton), JP (Exeter), (CG) Surrey.

Actions shared by RB (Bath), NC (Exeter), KD (Surrey)

Action	KPI
Work towards increasing diversity in centre mentor pools / mailing lists / centre 'contacts' of associates eg. for selection on panels etc	30% + woman becomes 'new normal' – mentor pools / associates
Ensure as much as possible that there is female representation on panels and speaker slots	1+ woman becomes 'new normal' – panels, speakers, judges
Audit SETsquared centre websites and brochures for unconscious bias and make neutral language and imagery a default. Bias recruitment/marketing towards women eg. making use of Facebook as an outreach tool	Audit completed by end May 2016. 6 monthly reviews
Team up / collaborate with peer led women networks re. events and sponsorship: increase visibility and show support eg. Geek girls, Women that code etc.	Collate lists of targets and prioritise; 2+ collaborative partnerships in place by End June 2016
Build diversity tracking into metrics both internally and for our centres/membership	Amend forms and membership records to include diversity tracking and pipeline origin.
Regularly survey members about the support, and include diversity indicators; respond to differentiators with tailored support - be sensitive to particular times: ideation stage and looking for investment as key danger times for drop off Offer diversity training to staff members if required.	Build diversity awareness into all stages of interaction with applicants and clients. -Diversity awareness becomes the 'new normal'.

C. CAMPUS:

Owners – AH (Bath), KD (Bristol), AS (Southampton), JP (Exeter), (CG) Surrey

Actions shared by SB (Bath), ICURe and Student enterprise teams (other centres)

Action	KPI
Ensure continuation in support between campus and the centres eg. student enterprise, iCURE etc. -Identify the pipeline and the key influencers in the chain between campus and centres	-Include student pipeline in metrics and set target to improve -Set up regular update/comms between campus + centres (if not already in place)
Set up formal links between centres and campus organisations that promote women in STEM and women in entrepreneurship to raise awareness of SETsquared programmes and opportunities for commercialisation of research eg. Women in Engineering, Diversity officers (Athena SWAN)	Collate lists of targets and prioritise; 2+ collaborative partnerships in place by End June 2016
Marketing Pro-active recruitment to feed the pipeline - produce video with a strong representation of female entrepreneurs to promote campus initiatives e.g. R2I, Student enterprise, Innovation Centres	-Explore costings and set budget to deliver video – target Sept 2016

APPENDIX B: SOURCE OF INFORMATION

SETsquared metrics and survey

Please see the accompanying document (SETsquared gender diversity report – 2015.ppt) for reference:

- SETsquared members, associates and alumni survey
- SETsquared internal metrics

BACKGROUND LITERATURE

A full list of research material is available. The following sources are referenced directly in this report:

¹Martha Lane Fox: Dimpleby Lecture: BBC 30/3/2015

²Barclays: Shattering Stereotypes; Women in Entrepreneurship April 2105

³Klein, K. (2013) 'Women who run tech start-ups are catching up.'

⁴Martin, L. (2010) 'Chapter 5 Analysing routes to starting and growing science, engineering and technology ventures: Perceptions of female entrepreneurs', *Innovating Women: Contributions to Technological Advancement: Vol. 1 Contemporary Issues in Entrepreneurship Research*: Emerald Group Publishing Limited, pp. 77-97.

⁵Wynarczyk, P. (2010) 'Chapter 6 An empirical investigation into the participation of women in industrial research and development (R&D)', *Innovating Women: Contributions to Technological Advancement: Vol. 1 Contemporary Issues in Entrepreneurship Research*

⁶Female Founders On An Upward Trend, According To CrunchBase May 26, 2015

INTERVIEWS WITH INCUBATORS

SETsquared commissioned Dr Janet Fernihough from consultancy INSPODA to review both the academic and wider literature to identify factors that prevent women from considering founding their own technological company as well as barriers encountered after deciding to do this. Janet interviewed 10 members of successful incubators (both with and without University affiliation) who could describe best practice for achieving their high proportion of female founders. These are listed in TABLE 1 below.

Summary of Interviewees

	Incubator	Source of entrepreneurs	Interviewed	% female founders
1	Accelerate Cambridge, Cambridge Judge Business School, UK	University and open applications	Director	20% in non Biotech (1/5-6), slightly higher in Biotech
2	Allia, Cambridge, UK (Charity status)	Open applications, focus on social Enterprise	Business Advisor	40-50% ("Climate kick" has 25%, more engineering focus)
3	Arthur Rock Center, Harvard Business School	University	Director	40%
4	BBC Labs	Open applications	Programme Manager	60% (3/5)
5	Birmingham Innovation	Open applications	Programme Manager e4f (Entrepreneurs for the future)	~10% (~10/100)
6	Harvard i-Lab	University	Email only from COO	50%
7	ISIS Software Incubation	University	Founder, Senior Tech Transfer Manager	29% (12/42)
8	Martin Trust Center for MIT Entrepreneurship	University	Entrepreneur in Residence	40%
9	Mass Challenge, UK (Charity status)	Open applications and targeted universities	Communications Manager	41% (US) 31% (UK)
10	Techstars, London	Open applications	Director	30%
11	Techstars (Barclays)	Open applications	Director	10-20% (6/50 – 2/10)
12	WAYRA UnLtd and WAYRA UK	Open applications	CEO	40-50% in UnLtd, 0-30% in UK

