# Uncovering Female Academics' Unmet Needs in Starting Their Journey Towards Entrepreneurship Through a Participatory Workshop

**Zsofia Hacsek, Andree Woodcock and Heather Sears** 

Coventry University, Coventry, UK.

ac8919@coventry.ac.uk

A.Woodcock@coventry.ac.uk
ac2368@coventry.ac.uk

Abstract: Globally, there are gender inequalities in research, entrepreneurship and innovation (E&I), with fewer women led startups and long-term successful businesses, and gender inequalities in funding and support for new businesses. In STEM (Science, Technology, Engineering and Mathematics) research, fewer women hold patents, receive large grants to support their work, or develop successful spinouts. This may be attributed to many reasons – both professional and personal – such as fewer women in STEM, gender discrimination in research cultures, career breaks and systematic undervaluing of women's research. For the EU, this uneven playing field creates a significant waste of talent and resources. Greater diversity is needed if we are to collectively solve global problems. The Horizon Europe funded GILL project (https://gi-ll.eu) aims to address such gender inequalities by providing actionable strategies to foster gender sensitive changes at all stages of the E&I lifecycle. With a goal of better addressing the needs of female researchers who want to develop spin outs out of their research, a literature review, phenomenological interviews and an exploratory workshop were used to understand women's entrepreneurial journeys, their needs and the barriers they had faced, with a view to designing better support. The paper briefly reviews the results from the literature and interviews before concentrating on the workshop and emergent needs of a group of previously unrecognised staff wishing to set up their own businesses. Workshop participants, mostly from minority, ethnic backgrounds generously shared their ideas and challenges in starting their business journeys, e.g. focussing on business creation as part of their life journey and a route to self-fulfilment set against their roles, and cultural expectations placed on them as daughters, wives and mothers. The results generated from the small workshop has opened up a new research direction and clearly revealed an unmet need in Higher Education Institutions, and elsewhere, to support for women's entrepreneurial journeys.

**Keywords:** Female Entrepreneurs, Startups, Participatory Workshop, Minority Groups

# 1. Introduction

The Gendered Innovation Living Labs (GILL) project (https://gi-Il.eu) addresses gender inequality in entrepreneurship and innovation (E&I) by providing actionable strategies to foster gender sensitive changes at all stages of the E&I lifecycle. Widespread inequalities within the E&I ecosystem mean that women, and those falling outside of the traditional entrepreneurial stereotype are disadvantaged at all stages of their research, innovation and entrepreneurship journeys. In the UK, only 13% of university-based spinouts are founded or cofounded by a woman or a mixed-gender team (Griffiths et al. 2020). Reasons for this include:

- Unequal workloads Female academics have higher administration and pastoral workloads (Bagilhole 1993), which leads to less time for research and for considering commercialisation opportunities. They are more likely to balance dual careers as carers/homemakers and paid employment (Carrasco 2014). Female academics are less likely to be involved in entrepreneurial activities, consultancy or contract research and informal activities required to progress spin outs (e.g. networking) (Abreu and Grinevich 2013). Having reduced opportunities to collaborate in commercialisation by being excluded from the boy's club (Murray and Graham 2007, p. 670), women lack access to the necessary powerful networks and may not have time to engage with spin out activities due to family commitments (Rosa and Dawson 2006).
- Underrepresentation of women in in STEM disciplines (Elsevier, 2020). The vast majority of academic spinouts are from science and technology disciplines. The outputs from research in these disciplines can be first patented as scientific or technological inventions, leading to the creation of a spinout company.
- Support from Technology Transfer Offices (TTOs). TTOs provide support for the commercialisation of
  research outputs. They can support academics who wish to apply for patents for inventions, who want
  to develop licensing agreements with external companies, or who are looking into setting up a spinout
  company. TTOs can also offer entrepreneurship training to academics. However, the quality of services
  they provide is variable as is evidenced by the polarisation of the university innovation ecosystem, with

70% of university spinouts originating from Russell Group institutions (Griffiths and Humbert 2019). Good practice was found at Royal College of Art (47% female led spinouts), WE Innovate at Imperial College, SETsquared Bristol incubator. ECRs (Early Career Researchers) were more likely to be critical of TTOs' slow response rates which resulted in missed funding opportunities, challenges to getting support and convincing universities to invest in their ideas (Griffiths et al. 2020) and the level of competence of TTO advisers (Rosa and Dawson 2006).

• Gender differences in levels of support needed. Murray and Graham (2007, p. 671) found that women academics were more likely to use the services provided by TTOs to learn about entrepreneurship, and to guide them through an 'uncertain landscape'. Their male counterparts did not need to link with companies, as they already had existing networks that connected them to entrepreneurship.

Outside academia, the 'business world' remains male dominated. For example, 83% of the European tech community is dominated by men, and 46% of women responders reported that they have faced discrimination (Atomico 2018). The vast majority of investors and 'business angels' are men. For example, within the 100 top venture firms only 7% of partners are women (Teare and Desmond, 2006). Being the only woman in the room, and pitching in front of an all-male panel, are situations that many women aspiring to be entrepreneurs mention as obstacles in their business journeys, for example due to the fact that the male investors did not have the personal experience to see the relevance of their business idea, if that is a product targeted for women (Griffiths et al., 2020). Hanson and Blake (2005) explored the influence of employment history, geographic and social context on women entrepreneurs arguing that a lack of experience in an industry may be a barrier or shaping factor in the business startup.

Entrepreneurship is socially constructed as a gendered field. For example, the characteristics associated with being a successful entrepreneur, and the words used to describe these characteristics, are overwhelmingly masculine (Ahl 2006). Aspiring women entrepreneurs are told that they need to 'think like a man' (Marlow and McAdam 2010, p. 212) if they want to succeed. Deficit discourses suggest that women have no place within entrepreneurship, unless they 'fix' their femininity with masculine behaviours (Ahl and Marlow 2012). With less influential networks, fewer role models and funders who favour their own gendered interests, women and those from less traditional backgrounds struggle to acquire notice for their ideas and funding. This is a significant, recognised problem. Europe aspires to create a level playing field for all creative thinkers, aspiring innovators and entrepreneurs to make use of its full talent pool and find new ways of solving the most urgent societal, environmental and health related problems. By breaking into new territories, women change the industry, the E&I ecosystem and can become role models/trail blazers for others.

# 1.1 The Gendered Innovation Living Labs Project (GILL)

Fundamental to the work of the GILL project are 15 case studies (termed Action Orientated Experimentations, see https://gill.bisite.usal.es/explore/action-oriented-experimentations) whose collective goals are to effect gender responsive smart innovation and entrepreneurship within their own E&I ecosystems. Following living lab principles (Colobran, 2019), each AOE works with Quadruple Helix Agents (i.e. industry, education, civic society and public bodies) through, in this case of GILL, two iterative design cycles to create impactful outputs. The design cycles include phases of understanding, codesign, implementation and evaluation (Ståhlbröst et al., 2024).

This paper relates to work conducted chiefly in the first iterative cycle of AOE2 based at Coventry University but recruiting participants from other West Midlands and/or UK universities as well. AOE2's objectives were to understand barriers faced by female academics in starting up their own businesses, and to cocreate an 'innovation bridge' which would cross the gulf between the support offered by the university and the needs of female academics. Obviously, it was hoped that improvements in the support would also benefit levels of entrepreneurship across all genders.

Each AOE in GILL is expected to follow 2 iterative cycles which may lead to a validated tool, method of process which can increase gender responsive smart innovation, Some AOEs work in a specific field such as health, AT or green transition. AOE2 concerns support for any member of an HEI (Higher Education Institute) wishing to set up a business in whatever field, and at whatever stage they may be on their journey. During the first iterative cycle, the AOEs concern themselves with QH engagement (in this case academics), better understanding the nature of the problem, codesigning with their stakeholders a protype solution, implementing it in some way (e.g. as a paper based mock up) and evaluating the idea with potential stakeholders. The second cycle proceeds in a similar manner, but the final output is a finished or transferable output.

To help and ensure that the AOEs maintain a gender focus in their activities, the GILL consortium has collated, tested and refined over 40 tools and methods to engage in gender responsive design all stages and settings in which E&I take place. Available through the GILL platform, the interactive interface (https://www.gillhub.eu/explore/gender-responsive-methods/) enables selection of suitable, useful and easy to use at each stage of the iterative cycle. By using these tools in practice, each of the 15 AOEs contributes to their iterative development. The methods used by AOE2 are outlined below. For each research method used, the AOE was required to fill in an evaluation sheet on the usefulness of the method to contributing to gender responsive design or understanding.

#### 2. The First Iterative Cycle of the Development of the Innovation Bridge

Adopting a user centred design approach to its work, AOE needed to understand the nature of the problem it sought to address, i.e. what problems female academics faced in their journeys towards becoming an entrepreneur, where the TTOs failed in supporting them on this journey, and codesign potential solutions. Although the first iterative cycle was supposed to also implement and evaluate solutions, this particular AOE did not progress to the 'implement' phase. Roughly 3 months was given to each phase of the activity, in the expectation that some activities may require longer than others.

## 2.1 Understanding Phase

In the understanding phase, 6 qualitative activities were undertaken in 2023 – a literature review and review of TTOs (see previous section), site visits to 5 technology incubators in Pakistan, semi structured interviews with 9 academics, who had started an entrepreneurial journey, as well as participant observation and follow up interviews with the European Business Network's (EBN) TechCamp held at Coventry University (CU). A reflective diary was also kept of all events attended or conducted.

#### 2.1.1 Specimen Results

Nine semi structured interviews were held with women and their male counterparts (successful and otherwise) which confirmed the barriers identified in the literature especially in relation to difficulties in time management, information gathering, communication between academics and operational teams and gender bias. They confirmed the massive learning curve, and the difficulty of finding information such as asking different people to you get a 'lead', slowness of the university, time overload, prioritizing time and ordering the tasks they need to do to set up a business, difficulty finding information, managing parenting problems, or commitment and never give up. This is exemplified in the responses provided to the question 'what advice would you give to a female colleague wishing to become an entrepreneur'; as well as taking all the courses and help available, "but also don't feel that there is a particular way is the right way.":

"I think there would be an irony in me as a white male academic expressing too strong a view or maybe anything in terms of what a female academic needs. I would say that female academics seeking to be entrepreneurs and hopefully through this exercise they will self-define what ecosystem should be, but for me there needs to be an ecosystem."

This was perhaps echoed in a comment to "ignore the men ( @)"



The need to redefine the E&I ecosystem from within was also reflected in the following comment:

"I would encourage female academics to enter the business world, they are needed possibly also to come up with a different style, "we don't have to do entrepreneurship this way"

This, although essential, puts an added burden on female aspiring entrepreneurs, as it was acknowledged that

"it's tough for women, tougher than men... Women have to prove that they have the leadership abilities, just because they are not men. The business world can be very aggressive and competitive; these might not be qualities attributed to women"

As the paper now focuses on the participatory workshop, these and the final quote should be remembered

the company should be based on passion... if it's just about money, it's not worth it; will just " be a source of "so many headaches" one has to clarify: WHY do you want to do it? love the topic, want to help other people..."

During the understanding phase, an opportunity arose to visit TTOs in 5 universities in Pakistan as part of a British Council exchange visit. These appeared were extremely well funded and successful. Looking at these through a gendered lens, it was noted that IBA offered special courses and mentorship programmes for female academics and had developed a model of female entrepreneurship (Qureshi et al., 2022) which could be highly transferable to address the needs of female migrant would-be entrepreneurs in the UK.

Observations at the EBN TechCamp showcased exciting technological innovation, but there was a huge male and white bias (the majority of male participants were white, with no non-white female participant at all). Interestingly, female students were used in auxiliary roles as helpers and to escort visitors round the buildings. Again, this confirmed the findings from the literature review.

## 2.2 Codesign Phase – Understanding the Entrepreneurial Journey and Support Needs

Overlapping somewhat with the understanding phase, a cocreation workshop, inspired by LEGO® Serious Play® (Blair and Rillo 2016, Fearne 2020)\_was undertaken with 7 members of staff. Following an email campaign, 20 attendees were expected, including 4 from tech support functions. Of the women who did attend, 6 were connected with CU, 5 were women who were considering spin outs, most were from ethnic minority groups. Incentivisation was provided in the form of £15 gift vouchers and lunch. The aim of the session was to understand the experiences of the women and use this to inform the codesign of extra support systems for female would-be entrepreneurs.

Given the sample, a lot of adaptations were made to the workshop format – hence we did not strictly adhere to the training manual (<a href="https://seriousplay.training/lego-serious-play/">https://seriousplay.training/lego-serious-play/</a>). It is also recognised that the sample was not drawn from our target population. However, we believe the results we obtained are valid, powerful and novel. The session lasted for around 3 hours, starting with a buffet lunch.

The session included three creative exercises; in each session participants were asked to use bricks as symbols. Each exercise was structured the following way:

- Step 1 Challenge. The session leader shares the task, the "challenge" to think about.
- Step 2 Build. People build models out of the LEGO® bricks on the table.
- Step 3 Share. People explain their model to others.
- Step 4 Reflect. People write a few words of sentences of reflection on post-it note before they demolish their models, and the cycle starts again with another exercise or finishes.

The three exercises were the following:

- Exercise 1: build a tower with you in it!
- Exercise 2: what are the dragons (obstacles, barriers, fears) that hinder you in your way?
- Exercise 3: build a model of solutions, of overcoming barriers!

Participants ages ranged from early 30s to late 40s – 2 were from Europe (Spain and Poland), 3 identified as Muslim, 1 as Black, 1 as Iranian. Four of the participants had children. They were equally divided between ECR, lecturers and those in support functions (in the Students Union, STEM advocacy or E&I support). Five had aspirations to set up their own business, one had extensive knowledge of support needed to enable this, and a final participant had succeeded in setting up her own successful business despite (ongoing) family and cultural pressures. All women enthusiastically engaged with the session and had no difficulty in understanding what was required of them, or in talking honestly, openly and with feeling about what their models meant. A selection of the models in shown in Figure 1. The results are discussed in terms of the 3 exercises.

During the session field notes and photographs were taken by 3 project team members. These were transcribed and sent back to the participants for verification. Also, the interpretation of events was cross checked with the wider GILL project team for missing themes and alternate interpretations.











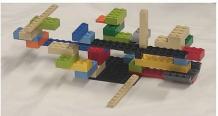


Figure 1: selection of models created by workshop participants to reflect aspects of their entrepreneurial journey

## 2.2.1 Build a Tower With you in it (Which Related to Your Feelings About Your Entrepreneurial Journey

The towers shared similar features representing the struggle of being a woman. Some represented themselves as a powerful animal (e.g. a tiger) balanced precariously at the top of a tower. Some towers holes in them – to symbolise something missing in their lives. During the discussion of the models, it was revealed that 'missing 'bricks related to various things – unfulfilled life goals/ambitions, or lack of knowledge/ideas. Another characteristic was the undermining of the tower, or structure by others, notably family members who were represented variously as elephant (nudging the base of the tower) or sharks. Opaque bricks were also used to represent glass ceiling or glass cliffs (Ryan et al. 2016). Scattered bricks acted as metaphors for the different things women had to manage before they found time for themselves. Coloured bricks at the top of the tower were used to denote unknown difficulties ahead, and whether the journey was worth the effort. Such difficulties were represented in subsequent rounds as crossroads, unstable bases.

'Perfect towers' with a woman inside a straight waled tower was used to denote all that a woman had given up and the cultural pressures to strive for perfection. Women at the base of the towers represented the need to reflect on experiences before achieving something that will have lasting impact and be seen as outstanding and fun. Asymmetric and unstable towers with an off-centre figure were used to denote someone who has a view of it all and who is managing different trajectories. Scaffolding and support structures were used to indicate the help needed to achieve ambitions.

Key emergent themes for these women were that they were unfulfilled, did not know how to start their journey, or even if they should, in some cases starting a business meant giving up a successful, and perhaps well-paid job, in order to achieve a sense of satisfaction and personal fulfilment. This had to be balanced against the risks of not succeeding, family pressures and financial insecurity.

Reflecting on their models and discussions, participants recognised that 'the power of storytelling is magnificent', the similarity of the struggles and the longing to achieve something 'other' as expressed as "not got to where you want to get yet" or 'what and where am I'. When discussing business ideas in the subsequent exercises, it was apparent that the businesses that the women were considered did not relate to the work they did at the university, but were ones that would give them personal satisfaction and happiness. This may be one of the reasons why they may have been opposed to setting up support within the university.

#### 2.2.2 'Here be the Dragons'

In this exercise, participants were asked to build a model that represented the barriers to their journey. The creation of the models helped the participants to open up and share their experiences. This led to a lot of empathy ('Feel on same page as you, I understand you') within the group and narration of personal stories and aspirations.

- 'Dragons' came in all shapes and sizes children, work, time, cultural pressures (e.g. of early motherhood), parental motivation, pressures to do a PhD, have a successful academic career. They were represented by large and small animals and human figures that symbolise family, friends and competitors. These act in different ways to undermine and judge, set barriers and expectations.
- Towers were used to represent the need to build, but how big should or could the tower be?
- Cups and treasure chests s hidden trophies (rewards), nets as symbols that limit the journey;
- Rotating wheels symbolised the need to constantly spin round and manage many things;
- Barriers were those constructed by others and oneself, e.g. self-doubt, weight of expectations 'We are expected to do too much. Don't want daughters to go through the same things', loneliness, need to attain certain achievements to be admirable, comparing oneself to others;
- Dark bricks were used to represents fear if you go in the wrong direction; nets as symbols that limit the journey; bridges (i.e to the next stage of the journey) were unsupported.

Whilst not unhappy and making light of the personal battles they had overcome; they were in some ways unfulfilled by their career choices — hence the desire to set up their own business. This is exemplified in comments such as 'women carry a lot of baggage', 'Don't know what to leap to...... Spent a long time building a steady stable environment, have 20-25 years left. So at the crossroads. The next bit could be anything'. She had a black cloud hanging over her related to family responsibilities. Anther comment, '...can be good at a lot of things.... wants to know how to connect my small thing with a bigger picture... stuck in the gap between thought and action'.

Participant 5 represented herself in a new house. 'Starts small, vague, once takes one step everything becomes lucid, clearer, but she doesn't know what the next step is. When she gets to the end of the path, reaches the objective, it becomes a complete void, "everything falls apart". You have beaten yourself up to get there, but what are you going to do with it. It was futile. You get the qualification, MA, PhD, so what? Then try to map the next goal and another objective..., feels like she is playing around. All these things that come and go, you are in a flow. I totally get the process, massive anti-climax.'

Most participants admitted they loved the process (of succeeding in their careers/education), but may be did not celebrate the small achievements, 'but when you reach the end it is nothing'. Do they carry on to the next stage, stop where they are, or start something new – if so, what? Will their decision be the right one, will it be approved by their (extended) families.

The role of families (especially male relatives) featured strongly as dragons for women from Asian backgrounds. Participant 3 commented 'sometimes we try to achieve what we think our subconscious-made heroes want, e.g. fathers, uncles. We have set these standards by the time we are mature; we have already achieved half of it, e.g. get married, and then realise it is not what we wanted. Another participant recounted how she had been told that the deafness of her son was a punishment from God for her lack of piety. She split her family, leaving her husband and daughter in the Middle East, and came to the UK with her son and do a PhD. Her 'dragon' became a motivator. Participant 4 commented: 'At 35 I have learnt to let go. Putting barriers in front of me will protect me. Don't feel I am respected strong enough, cultural barriers — get told off constantly for saying this is my house; no, it is your husband's house. I am always told that's not correct. I've learnt to ignore it.'

Reflecting on this stage, participants felt that they had been to a 'therapy session' e.g. 'I feel I am just representing negative energy, darkest, deepest thoughts are coming'. They felt they were more open to others that they did not know.

The bonding of the group and their personal stories has strengthened the commitment of the research team to create a vehicle by which we can support these and similar women. These are strong, articulate and competent women, who need support and encouragement at the start of their journey. Two unexpected, positive outcomes of the recruitment bias in the session were that

- we met a group of female employees from minority groups at the university whose needs and aspirations currently are not being met and perhaps would not be met by TTOs whose efforts are channelled towards high yield technology led businesses.
- Increased recognition of the need to understand cultural biases and the deep-rooted effects this can have.

#### 2.2.3 Build a Model of Solutions to Overcoming Barriers

This was the final session of the workshop in which it was hoped that possible solutions could be codesigned, leading to a tangible outcome that could be implemented in the next phase of the work. Solutions put forward included

- be a lion ignore all the dragons and sharks, take control and ownership, letting people in only when needed (e.g. mentors), be more persistent and self-reliant, learn to appreciate oneself when achieve small milestones, open to new experiences. asking for help and enjoying the process;
- sailing forth to a goal in a boat including family, with necessary skills and confidence, 'as long as I feel supported will be ok'.

From the discussions it was clear that the participants valued the session, and it was proposed that follow on meetings could be used to explore ways of providing them/connecting them with support. Networks and mentorship were valued, along with culturally sensitive discussion and solutions. Participants concurred that they did not want this to be an IT based solution such as whats app group or team's site, and that they did want to meet at the university.

#### 2.2.4 Limitations and Disappointments

- Organisational churn, restructuring and austerity measures meant that it was extremely difficult to
  understand the history of support at CU. Memories of support pre-covid were that support had been
  available, that the TT team had met with departments and individuals. No institutional memory/records
  existed of this. Likewise attempts to find out levels of support/success in supporting academics did not
  yield any responses.
- It should be noted that many universities do not keep, or make available this information, and that no sex disaggregated data is available.
- Initial proposals for funding to develop an interface and 'one-stop-shop' for local advice linked to university systems was unsuccessful.
- Closure of CUs FabLab which meant a 'safe meeting space' could not be secured and the model of entrepreneurship not tested.
- Lack of buy in from TTO, Enterprise and Innovation office and staff, which made recruitment for events very difficult.
- Difficulty in arranging times when the workshop participants could meet.

# 3. Discussion and Conclusions

The initial aim of AOE2 was to address gender inequalities in E&I of female academics enabling them to create businesses and take up senior and influential research leadership roles where they might influence EU research. Hilary Clinton recognised that 'women are the largest untapped reservoir of talent in the world'; the studies conducted in the first stage of the research confirmed that there is an uneven playing field and that some HEI TTOs could provide better support for their female staff. Interviews with those who had navigated their way towards entrepreneurship stress the importance of taking up practical courses, persistence in seeking out information, and the need for women to change the existing E&I ecosystem. One example of good practice was found at IBA in Pakistan which has led to ongoing research looking at indigenous and non-western models of entrepreneurship. This seems particularly appropriate given the results from the participatory workshop.

The attendees of the workshop were not those from the target group. Nevertheless, it was recognised that the needs of women from minority groups, and those employed in non-research functions of the university who had aspirations to start their own businesses, were not being met and would be unlikely to be met under the current services provided. Participants collectively expressed both their fears and desires to set up businesses that would enable them to fulfil unmet personal needs. A woman entrepreneur may be 'defined as confident, creative, and innovative desiring economic independence individually and simultaneously creating employment opportunities for others' (Singh, 2021). Supporting such women requires new models of entrepreneurship and methods of delivery, drawing on social entrepreneurship, and recognising the importance of intersectionality and psychological factors as barriers and enablers.

# 4. Next Steps

At the start of this research, we determined to study 'academic women' who might wish to start a business, for three reasons. Firstly, as fellow academics, we understood the context/industry in which such women worked; secondly, we were aware of barriers/lack of support within academia; and thirdly, the wider implications of thwarting or imposing a glass ceiling on these academic highflyers for the European Research Arena. The research journey led us down a different pathway, with the observational studies in Pakistan and the workshop highlighting the need for a more nuanced, 'gender-aware framework for women's entrepreneurship' (Brush at al., 2009). According to the data included in the latest Gender Equality Strategy the EIGE reported that 44% of Europeans think that the most important role of a women is to take care of her home and family and that 43% think the most important role of a man is to earn money.

Against this background, it is not surprising to find that the personal histories shared by women in the participatory workshop related not to barriers associated with the fundamental building blocks of new ventures (i.e. market, money and management) but on motherhood, and meso/macro environment. The latter address considerations beyond the market, such as expectations of society and cultural norms (macro), and intermediate structures and institutions (meso), pointing to the need for structural changes to enable women to succeed. Societal and cultural expectation are a fact of life. For Brush et al. (2009, page 9), "motherhood" is a metaphor representing the household/family context'. For workshop participants who emphasised their status as mothers, or who had come from Muslim families this emerged as both a strong motivational force (doing this for their children) or a barrier (breaking free from repressive upbringing and expectations).

From a methodological perspective, despite the obvious limitations of a small and biased sample, we would echo the sentiments of researchers such as Henry et al (2015) for the use of more qualitative approaches, and a more nuanced consideration of women entrepreneurs (e.g. Owalla et al, 2021) which recognises their heterogeneity, the influence of their culture, motivations, goals, measures of success and contexts.

The next stage of the work is to co-create an impactful, transferable solution that will support the needs of this group. Initial meetings have been conducted and ideas put forward such as an informal network, entrepreneurial cafes, or serious games (following a suggestion from one of the interviewees). However, we are mindful that our participants' time is valuable, and that running another cocreation session with them might provide them with few tangible benefits. Inspired by the work of Lisa Bowleg (n/d) on Intersectionality Research Salons, we have put together a schedule of meetings with invited guest speakers on topics of local interest, which will also provide participants with opportunities to share experiences, and offer suggestions for future events.

Alongside the practical support for participants outlined above, the information collated at these meetings will be published on a website, with the dual purpose of being useful for women in academia who are interested in starting a business, but also for university TTOs (both in terms of flagging unmet needs and providing ideas of how these can be met). On the basis of this information, the results of the AOE may be summarised in a policy briefing/report, targeted towards HEIs; this will be co-developed with participants throughout 2025.

# **Ethics**

Prior to the conduct of the research, ethical approval was gained from Coventry University as medium risk, certificate P161486 for the interview studies and P173148 for the workshop.

#### Acknowledgements

Funded by the European Union (GILL, 101094812). Views and opinions expressed are, however, those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the European Research Executive Agency can be held responsible for them. This project is co-funded by UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee [grant number 10049511]. The authors would also like to thank all participants for their honesty and openness in the participatory workshop.

## References

Abreu, M. and Grinevich, V. (2013) "The nature of academic entrepreneurship in the UK: Widening the focus on entrepreneurial activities", Research Policy, 42, 2, pp. 408-422.

- Ahl, H. (2006) "Why Research on Women Entrepreneurs Needs New Directions" Entrepreneurship Theory and Practice 30, 5. 595-621.
- Ahl, H. and Marlow, S. (2012) "Exploring the dynamics of gender, feminism and entrepreneurship: advancing debate to escape a dead end?" Organization, 19, 5, 543-562.
- Amatucci, F.M. and Sohl, J.E. (2004) 'Women Entrepreneurs Securing Business Angel Financing: Tales from the Field' Venture Capital, 6(2/3), pp. 181-196.
- Atomico (2018) "The State of European Tech 2018". Accessed 18 August 2023. Downloaded from https://2018. stateofeuropeantech.com/chapter/stateeuropean-tech-2018/.
- Bagihole, B. (1993) "How to Keep a Good Woman Down: an investigation of the role of institutional factors in the process of discrimination against women academics", British Journal of Sociology of Education, 14, 3, 261-274.
- Blair, S. and Rillo, M. (2016) SeriousWork How to facilitate meetings and workshops using the LEGO® Serious Play® method. Promeet.
- Bowleg, L. (n/d) 'Intersectionality Research Salons', Accessed 18 August 2022. Downloaded from <a href="https://www.intersectionalitytraining.com/whats-a-salon/">https://www.intersectionalitytraining.com/whats-a-salon/</a>.
- Brush, C.G., de Bruin, A. and Welter, F. (2009) A gender-aware framework for women's entrepreneurship, International Journal of Gender and Entrepreneurship, 1,1,8-24.
- Carrasco, I. (2014) "Gender gap in innovation: an institutionalist explanation", Management Decision, 52, 2, 410-424. Colobran, J. (2019) "Living lab Guide", MIND4ACT, Accessed 4/1/2025. Downloaded from <a href="https://livinglabing.com/wp-content/uploads/2020/07/Living-Lab-Guide">https://livinglabing.com/wp-content/uploads/2020/07/Living-Lab-Guide</a> web.pdf
- EIGE (n/d) Gender Statistics Database, https://eige.europa.eu/gender-statistics/dgs.
- Elsevier (2020) "The research journey through a gender lens". Accessed 18 August 2023. Downloaded from https://www.elsevier.com/research-intelligence/resource-library/gender-report-2020.
- Griffiths, H. and Humbert, A.L. (2019) "Gender and university spinouts in the UK: geography, governance and growth" Oxford: Oxford Brookes University Centre for Diversity Policy Research and Practice.
- Griffiths, H., Grisoni, L., Manfredi, S., Still, A. and Tzanakou, C. (2020) "The Spinout Journey: Barriers and Enablers to Gender Inclusive Innovation", Oxford: Oxford Brookes University Centre for Diversity Policy Research and Practice.
- Hanson, S. and Blake, M. (2005). Changing the gender of entrepreneurship. *A companion to feminist geography*, 179-193. Accessed 5/1/2025. Downloaded from <a href="https://onlinelibrary.wiley.com/doi/pdf/10.1002/9780470996898#page=193">https://onlinelibrary.wiley.com/doi/pdf/10.1002/9780470996898#page=193</a>
- Henry, C., Foss, L., & Ahl, H. (2016). Gender and entrepreneurship research: A review of methodological approaches. International Small Business Journal, 34, 3, 217-241.
- Fearne, M. (2020) The LSP Method How to engage people and spark insights using the LEGO® Serious Play® method.
- Marlow, S. and McAdam, M. (2010) "United Kingdom" in Fielden, S.L. and Davidson, M.J. (eds) International Research Handbook on Successful Women Entrepreneurs. Cheltenham: Edward Elgar Publishing.
- Murray, F. and Graham, L. (2007) "Buying science and selling science: gender differences in the market for commercial science", Industrial and Corporate Change, 16, 4, 657-689.
- Owalla, B., Nyanzu, E. and Vorley, T. (2021). Intersections of gender, ethnicity, place and innovation: Mapping the diversity of women-led SMEs in the United Kingdom. International Small Business Journal, 39(7), 681-706. <a href="https://doi.org/10.1177/0266242620981877">https://doi.org/10.1177/0266242620981877</a>.
- Quereshi, S., Welsh, D.H.B., Khan, A.R. (2022) "Training mom entrepreneurs in Pakistan: a replication model", Service Business, Accessed 5/1/2025. Downloaded from https://doi.org/10.1007/s11628-022-00480-1
- Rosa, P. and Dawson, A. (2006) "Gender and the commercialisation of university science: academic founders of spinout companies", Entrepreneurship and Regional Development, 18,4, 341-366.
- Ryan, M. K., Haslam, S.A., Morgenroth, T., Rink, F., Stoker, J. and Peters ,K. (2016) "Getting on top of the glass cliff: Reviewing a decade of evidence, explanations, and impact", The Leadership Quarterly, 27, 3, 446-455.
- Singh, A. (2021), Types of Women Entrepreneurs everyone must know. Acccessed 7/1/2025. Downloaded from https://getinstartup.com/types-of-women-entrepreneurs-everyone-must-know/.
- Ståhlbröst, A., Runardotter, M., Chroneer, D., Bodí, Z. (2024) "Living Labs". In: Ziegler, S., Radócz, R., Quesada Rodriguez, A., Matheu Garcia, S.N. (eds) Springer Handbook of Internet of Things. Springer Handbooks. Springer, Cham. <a href="https://doi.org/10.1007/978-3-031-39650-2">https://doi.org/10.1007/978-3-031-39650-2</a> 36
- Teare, G. and Desmond, N. (2016) "The first comprehensive study on women in venture capital and their impact on female founders", Tech Crunch, Accessed 18 August 2023. Downloaded from https://techcrunch.com/2016/04/19/the-frst-comprehensivestudy-on-women-in-venture-capital/