

Enhancing Women's Leadership and Agency in the Context of University Spinouts and Businesses

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Abstract: This paper is reporting the preliminary results of a case study at Coventry University. Using innovative methodologies, we map needs of women in academia who intend to start a university spinout/business and develop a supportive tool in line with the co-creational approach of Living Labs. Data collected at our creative workshop reveals how women struggle in a toxic masculine environment, in which they both identify external and internal barriers and difficulties in defining 'business success'. Our suggestion to support them is to invest in Living Lab based networking opportunities, role models, and to develop a tool that models the business journey.

Keywords: Gender, Academia, Business, Spinout

1. Introduction

The commercialisation of university-based research is generally considered a means of increased economic agency. As thought leaders, universities should be leading the way by investing in women entrepreneurs and modelling the structural supports needed to create pathways for women to lead in academia and beyond. However, women are not benefiting from the economic, social, and symbolic power or the leadership opportunities that follow from creating a successful spinout at the rate expected.

Research shows that in the United Kingdom, the number of women-led university spinouts (businesses developing of university-based research) is very low compared to those that are led by men. As shown by Griffiths and Humbert (2019, p. 16), the percentage of women 'C-Suite' leaders (CEOs, CTOs, or CFOs) is only 13%, as "[o]n average, there are 4.6 individuals listed as members of the C-Suite in each active spinout, consisting of 4 men and 0.6 women". Spotlight on Spinouts shows that in January 2023, founders of UK-based spinouts were 7.6% of all-female, 17% of mixed gender, and 75.4% of all-male; as for directors, only 3% were female, 44.9% were mixed-gender, and 52.1% were male (Whorwood et al., 2023, p. 28).

Literature also shows that the industry itself is influenced by a lot of gender stereotypes, which results in a gender imbalanced environment. Women leaders are mostly to be found in smaller spinouts, and there is a negative correlation between a spinout having a woman founder and being a recipient of a large innovation grant and featuring in a high-growth list. Related to this, women tend to label the mere 'survival' of their business as a kind of success already. They struggle much more with juggling their professional and private responsibilities and suffer from lower confidence than men (Griffiths et al., 2020). This data cannot merely be explained with the lower numbers of women in higher-level academic positions (Advance HE, 2021), as literature show a visible engagement of early career researchers in spinout activities, therefore often being multiply disadvantaged as both early career and woman (Griffiths et al., 2020).

Coventry University is conducting a study to investigate reasons for the gender imbalance in research-inspired female entrepreneurship as the first stage in co-creating a means of encouraging more women based in academia to successfully commercialise their research (e.g. through patents, spinouts). Women should be supported in commercialising their passions, research results, or inventions to fulfil their ambition and enable them to gain leadership positions in academia and beyond.

2. Preliminary Research Results

This case study entitled *Brick by Brick: Supporting Women in Academia in Their Spinout/Business Journey (AOE2)* is one of fifteen Action Oriented Experimentations undertaken by the Gendered Innovation Living Labs (GILL) project.

The focus of AOE2 is on the gender gap in entrepreneurship and innovation in academia. To engage with this issue, AOE2 employed a literature review, semi-structured expert interviews, and participant observations at the 2023 EBN TechCamp in Coventry to understand the barriers faced by would-be female entrepreneurs. Our data has shown that the gender imbalance in the academic spinout/business industry is related to complex structural disadvantages, including geographic, industrial, and intersectional ones.

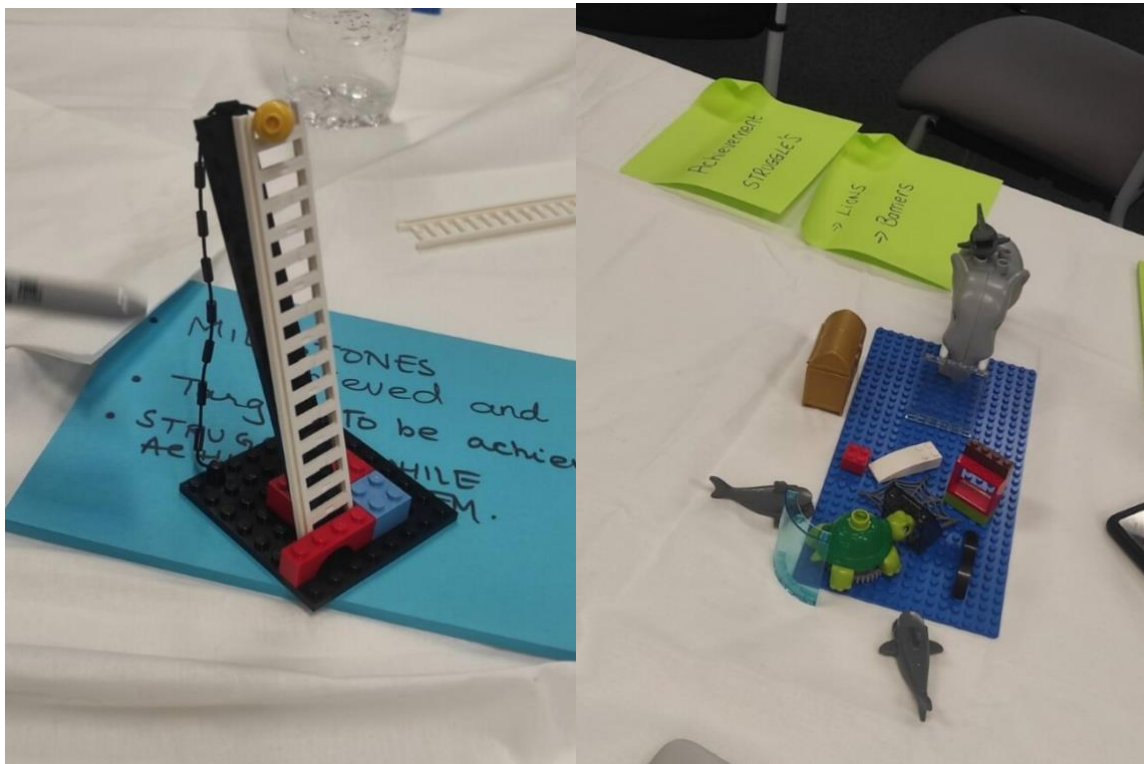
Women who decide to start and run a business are forced to be part of an environment which glorifies 'masculine' values, operates with information that is difficult to gain and understand, requires a lot of flexibility in terms of adaptation to new trends, and expects women to juggle various roles, including a division of time between academia, business and family. This creates additional barriers for middle-aged or elderly women, women with children (especially single mothers), as well as racialised women (see Chance, 2022, Ferraro, 2023). Also, the geographic data shows that university spinouts/businesses are generally more strongly represented in certain geographic areas (Russell Group universities, the 'Golden Triangle', and Scotland) and industries (STEM) (see Whorwood et al., 2023).

Coventry University is based in the West Midlands, in a relatively diverse region of the UK. This diversity is also represented in local higher education institutions. In order to understand more about the needs and aspirations of local female academics who wished to develop business concepts and start new businesses, a Co-Creation workshop 'Brick By Brick' was held in February 2024, inspired by LEGO® Serious Play®. The creative exercise was chosen to stimulate nontraditional thinking patterns; we aimed the workshop to be completely bottom-up and participant-led, letting participants work freely.

Seven women attended the workshop, mainly from the BAME communities. The workshop consisted of three phases, each operating with four cycles. The first cycle consisted of the workshop leader announcing the self-reflective exercise. In the second cycle, participants built a model, using the modelling bricks on the table. This was followed by the third cycle, in which participants described their model, and discussed it with the others. In the fourth cycle, they wrote their reflections on post-it notes. The three exercises were the following:

- Creating a model that symbolises participants' current situation with respect to their work, life, and possible business idea.
- Creating a model that symbolises the challenges and difficulties participants face in this regard.
- Creating a model that symbolises the way they imagine overcoming these challenges and difficulties.

Visual and written data was collected during the process: 1) photographs of the models, 2) research jottings that were subsequently turned into fieldnotes, 3) the reflective notes written by participants. The analysis was already started by the participants when they described and critically discussed their models, and was continued by researchers, creating analytical codes and notes. These were also fed into a Theory of Change.



Figures 1-2: models of challenges/difficulties

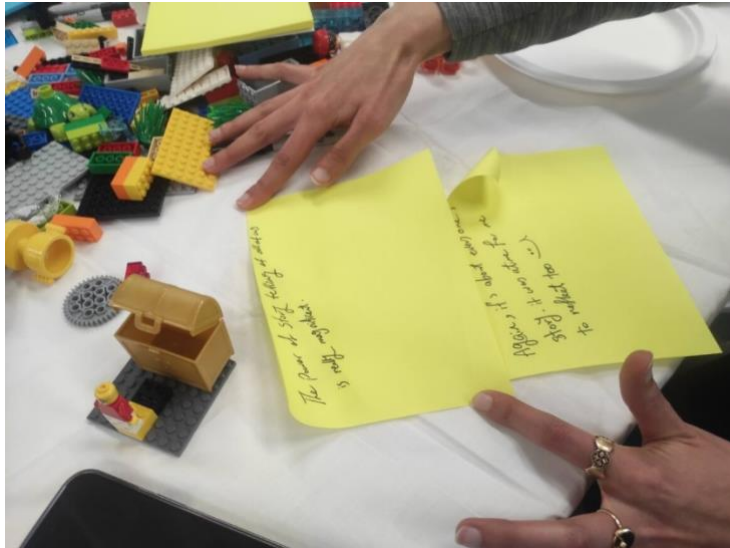


Figure 3: reflective notes.

A limitation of this method is, like in focus group-based qualitative research in general, the relatively small and non-representative group. Nevertheless, the method itself is replicable in other communities, and it is useful in providing multidimensional snapshots of challenges and opportunities within the respective community at a given time and space. The biggest strength is the support of innovative, nontraditional, and creative thinking, which results in new symbols and analogies of women's leadership issues (see Srivastava and Nalawade, 2023). Also, a huge level of trust and a sense of community was achieved during the workshop.

Results show multiple challenges that women in academia face in terms of spinouts/businesses. Despite our previous expectations, most did not come with a developed business idea they were willing to share with any confidence; instead, they had a lot of doubts what counts as a business at all (such as a proofreading firm or income from real estate investment). It turned out that most of them do not think about commercialising their research; they have parallel academic interests and business motivations, but their subjects might be different. What is common in both is the desire of more freedom in their time management and more economic security. This result shows that although academics are interested in starting businesses, those business ideas are not necessarily spinout ideas: this has been underrepresented in literature, as the focus has been more like on spinouts. Further research is needed to investigate whether the business ideas of these female academics show a desire to rather leave academia, and if yes, for what reasons.

The conversations revealed that many suffered from the current business environment. To name a few examples:

- Its toxic masculine understandings of 'success' and 'work-life balance'. Most participants reported to juggle career and carer duties already (see Participant 003's visualisation of this in Figure 1), and they have been concerned about putting more extra (possibly volunteer) work into a new business, despite their desire of the advantages of a business.
- Internal barriers (self-doubt, negative self-talk, anxiety, impostor syndrome). This was another general experience; most participant mentioned having negative 'voices' in their heads or be under 'a dark cloud'.
- External barriers (glass ceiling, discrimination at workplace and beyond, misogynistic environment, lack of financial and practical support). Various participants symbolised a glass ceiling or a transparent cultural barrier: see the latter in Participant 004's symbol in Figure 2.

They also expressed the need for a network where they can meet women in similar situations to theirs, and they emphasised the importance of role models.

3. Preliminary Conclusion and Moving Forward

At the current stage of research, we are considering various tools and practices to be implemented which could support local women in their spinout/business journeys. These include:

- Increased networking opportunities through regular meetings, in which women of academia who plan to start a business can meet and share experiences. These will be held at least every two months, face-to-face in informal settings outside of the university. These meetings will give women the chance to seek for peer support and share their experiences, challenges, and resources with others.
- Role models. To the network, speakers and workshop leaders will be invited who are 1) experts and leaders of already existing successful spinouts (any gender, but preferably women), 2) Enterprise & Innovation staff members of West Midlands based universities. Members of the network will have the chance to learn from role models and seek mentoring if needed.
- A supportive tool of the business journey. At the workshop, more needs for creative approaches were expressed, especially in collecting and sharing information on the legal and administrative sides of business. We will design an interactive storytelling app which models the necessary steps of the business journey, including hindrances and ways of overcoming them. The story will be co-designed with network members.

The intended network will be based on Living Lab philosophy, i.e. it will be an 1) open innovation ecosystem (welcoming anyone who needs networking and support) in a 2) real-life environment, using 3) iterative feedback processes throughout a lifecycle approach of an innovation (as built in the project design) to create 4) sustainable impact (in terms of both academic and applied research outcomes). Therefore, our long-term goal is to create a new Living Lab in Coventry, supporting business/spinout goals of women in academia.

Research outcomes of AOE2 are expected in terms of the development of entrepreneurial skills sets, clearer business goals, and a higher confidence among women in academia who plan to start a business. This will hopefully also feed into a more gender-sensitive and gender-equal environment of academic businesses and spinouts at the site of our case study and beyond.

4. Ethics

The workshop was approved by Coventry University Ethics, P173148.

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Disclosure of Interests

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