

RICHIESTA PER L'ATTIVAZIONE DI UNA BORSA DI RICERCA
Dipartimento di Scienze Aziendali – Università di Bologna

Titolo italiano: Diversità nelle startup innovative italiane

Titolo inglese: Diversity in Italian innovative start-ups

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Tutor: Daniela Bolzani

E-mail: daniela.bolzani@unibo.it

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1. Motivation and background of the research project

The gender gap is a relevant issue in the participation in entrepreneurship and innovation (E&I) activities, especially those in the domain of science, technology, engineering, mathematics and medical disciplines (e.g., Jennings & Brush, 2013; Giuri et al., 2020).

To date, innovation remains a male-dominated activity, and women still represent a small minority among inventors. According to UNESCO (2019), women represent less than 30% of the R&D workforce worldwide and they account for just 7-18% of all inventors (Jensen et al., 2018; Hoisl & Mariani, 2017). Data show that, despite some progress, a pronounced gender gap remains in the creation of innovative start-ups. For instance, Rossetti et al. (2018) found that 90% of digital start-ups supported by the Start-up Europe Initiative had a male founder. A study by the Global Entrepreneurship Monitor (Elam et al., 2019) indicated that Europe has the lowest female involvement in early stages of entrepreneurial activities - only 6%. Lassébie et al. (2019) show that the gender gap in innovative high-potential start-ups is thus much larger than the gender gap in entrepreneurship in general. Moreover, women are less likely than men to be involved in academic entrepreneurship, in the commercialization of scientific research (Murray & Graham, 2007; Muscio & Ramaciotti, 2019). Several studies have shown that several differences exist in entrepreneurial behaviours between women and men, for instance with respect to the attitude towards entrepreneurs' networking activity (Watson, 2012), entrepreneurial orientation (Tan, 2008), risk attitude, entrepreneurial capital (Shaw et al., 2009), and new venture growth preferences (Capelleras & Rabetino, 2008).

The investigation of gender imbalances in E&I is receiving growing attention worldwide because better women's inclusion activity would contribute greatly to the socio-economic development of nations (Brush & Cooper, 2012), reduce the brain waste of a large pool of talented women (Hunt, 2016), and bring novel perspectives and mindsets to entrepreneurial ventures (Bell et al., 2019; Dezsö & Ross, 2012).

Gender imbalance in E&I, especially in STEMM sectors, is a complex phenomenon that is rooted in organizational, cultural, and institutional factors that influence women's choices starting from the early childhood and then progressing through high school and eventually tertiary education, and finally family and career (De Bruin et al., 2007). Early biological differences do not drive gender gaps in mathematical ability and attitude towards science at early ages, and the gaps widen by middle and high school, under the influence of psychological and cultural factors that manifest themselves both at home and at school through, for instance, negative gender stereotypes and the lack of role models (Averett et al., 2018). Several authors highlight gender differences in STEM education as one potential explanation for the gender gap in innovative startups – the lower number of STEM female

graduates transforms into less female founders of innovative science-based startups. Furthermore, since venture capital tends to be more associated with STEM areas, this could also hint at the existing gender funding gap of innovative start-ups. Also, as illustrated in Lassébie et al (2019), there may be factors of a sociological nature. For instance, some studies have documented differences in the personality traits ascribed to women and those attributed to the entrepreneur, such as, for instance, risk-taking behaviour and confidence in a negotiation.

In entrepreneurship, most studies are built on a “gender as a variable” approach, which comparatively investigates male and female entrepreneurs. However, this comparative, “female-male binary” approach overlooks the heterogeneity in women’s socio-demographic characteristics (e.g., race, ethnicity, age) that intersect to impact their identities and social positions of privilege or disadvantage. Therefore, it does not offer the possibility to look at the processes that characterise entrepreneurship as a non-gender-neutral phenomenon (Ahl & Marlow, 2012). In fact, because gender is socially and culturally constituted, women’s entrepreneurship should be investigated within systems of socially constructed and shared beliefs about entrepreneurial behaviours and roles deemed appropriate for members of each sex (Ahl & Marlow, 2012).

2. Objectives of the research project

Based on our understanding of the literature state-of-the-art, in this study we aim at answering some previously neglected empirical questions about the strategic and organizational dimension in women’s entrepreneurship, considering the social and cultural construction of entrepreneurship through its nesting into social structures (i.e., team, firm, industry, and regional social contexts):

- How does gender diversity in entrepreneurial teams, and its intersections with other entrepreneurs’ socio-demographic characteristics such as ethnicity, age, and co-familiarity influence science-based start-ups’ innovation and market performances, and how is this relationship moderated by regional and industry contexts (for instance, participation to incubation/acceleration programs)?
- What entrepreneurs’, business, industry, and contextual characteristics predict the formation of entrepreneurial teams with a predominance (or not) of women entrepreneurs, and in particular in science- vs. non-science-based industry fields?
- How are the internal structures of entrepreneurial teams (i.e. job roles and functions) assembled and negotiated in start-ups where entrepreneurs have different gender and ethnic characteristics, and what are the effects of contingent factors such as family business, industry and regional characteristics?

3. Methodology of the research

Based on our literature review and our expectations in terms of policy/practice implications, we focus on the context of Italy. The gender gap in economic participation and opportunity is particularly high in Italy, which was ranked 63rd over 156 countries in the latest release of the Global Gender Gap Index report (World Economic Forum, 2021). This worrisome negative performance is mostly explained by unequal labour opportunities in terms of roles/wages and access to leadership positions. Italian women are more than twice represented among part-time workers with respect to men; and less than twice under-represented in the boards of listed companies with respect to men (World Economic Forum 2021). Only around 16% of graduates in STEM are female, with respect to 34% of male ones (World Economic Forum 2021). Thus, the Italian context is a relevant and critical context in which understand the challenges faced by women PhDs, academics, and entrepreneurs.

The research project for this fellowship is structured according to three phases: (1) review and understanding of the literature and of available sources of data; (2) data collection, data structuration, and data analysis; (3) writing of reports, articles, and dissemination of results.

Our sample is built upon the register of Italian “innovative startups” (Decree Law 221/2012) which are listed in the dedicated section of Chamber of Commerce (<https://startup.registroimprese.it/isin/home>).

To answer the research questions, we use as a source of additional data AIDA BVD, that collect information on start-ups, their entrepreneurs and managers, and their performances. For each entrepreneurial team, we will collect information about entrepreneurs’ nature (e.g., individual, university, public body, industrial company, financial organization), going into details about individual entrepreneurs’ ones (e.g., gender, age, country of birth, education, professional experience, same-family member) by using different sources of data (e.g., AIDA Bureau van Dijk, LinkedIn). We characterise each company according to its industry code and regional location, by collecting several data about these contextual variables (e.g., OECD regional indicators, welfare indicators). This dataset makes it possible to move beyond previous literature because it allows to (1) consider intersectionality of individual characteristics and diversity measures at the team level, thus allowing for within-group women entrepreneurs’ comparison and accounting for the historical evolution of team composition over time (Bolzani et al., 2019); and (2) take into account the institutional aspects of entrepreneurship by considering the industrial and regional context, including measures of welfare and social institutions which might influence women’s performances in E&I.

The collection, structuration and analyses of the data will be mainly based on statistical packages (e.g., Stata).

4. Timing of the research project

The project is structured in four working packages (WPs), as described below (with the indication of length of effort expressed in months), and summarized in Figure 1.

WP1: Analysis of the literature (month 1)

In this WP, the research fellow will be in charge of understanding the available literature on female entrepreneurship, its relevant gaps, and the potential contribution of this research project.

WP2: Data collection and database creation (months 2-4)

Drawing on the different data sources described in the Methodology of the research, the research fellow will deliver a dataset about innovative start-ups in Italy founded by female entrepreneurs. This dataset is expected to be delivered by month 4.

WP3: Data analysis and writing (months 4-6)

In this WP, the research fellow will collaborate with the research team of the project to the preparation of the following deliverables:

- One report that presents the findings and suggests practice-policy recommendations;
- At least one working paper presented at conferences or sent for publication;
- At least one practice-oriented blog/article (e.g., La Voce, The Conversation).

Figure 1 – Expected timeline of the project

WP/Months	1	2	3	4	5	6
WP1: Analysis of the literature	■	■				
WP2: Data collection and database creation			■	■		
WP3: Data analysis, writing, and dissemination					■	■

5. Profile of the research fellow

The following points describe the preferential characteristics of the research fellow:

- Have experience in carrying out academic research activities in entrepreneurship, incubation, and start-ups.
- Have experience in the management and analysis of quantitative data, with the support of data spreadsheets (e.g., Excel) and statistical softwares (e.g., Stata);

- Have at least an intermediate level of Italian and English language (CEFR B2) or preferably advanced or proficient level (CEFR C1 or C2);
- Have published reports or articles based on research efforts.

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