

# ‘It just seems that they don’t act like men’: The influence of gender role stereotypes on women’s entrepreneurial innovation activities

Janina Sundermeier

Freie Universität Berlin, Garystrasse 21 14195, Berlin Germany

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## ABSTRACT

The purpose of this study is to explore how gender role stereotypes influence women entrepreneurs in their innovation activities. To examine how women perceive and respond to stereotypes that deem them less capable of initiating innovation processes of creative destruction in Schumpeterian terms, I draw on symbolic interactionism. The ethnographic field study I conducted in an entrepreneurial ecosystem reveals that relevant actors and institutions still attribute women as exploring innovation potentials of limited scope, having higher risk awareness, and exploiting identified innovation potentials in niche rather than mainstream markets, while they are more often driven by emotions. To challenge these stereotypes and thrive in exploring and exploiting innovation potential, they need to invest considerable resources in legitimation efforts, building strategic alliances, and managing expectations. These findings contribute to the development of theory on the impact of gender on the performance of innovation activities.

## 1. Introduction

Despite the far-reaching implications of entrepreneurial innovation activities for economic development and employment creation (Mole & Ram, 2012; Shane & Venkataraman, 2000), it has repeatedly been shown that the socio-demographic backgrounds of those founders who effectively explore and exploit innovation potentials are quite homogeneous (George et al., 2012; Schiebinger, 2014; World Economic Forum, 2020). As a result, countless opportunities to address grand challenges remain untapped, as perspectives on market gaps, unsolved problems, and opportunities to improve the current status quo are limited (Bullough et al., 2022; Fu et al., 2021; Mortazavi et al., 2021; Østergaard et al., 2011). Notwithstanding the limited heterogeneity among founders undertaking entrepreneurial innovation activities, opportunities to (re)combine resources to create novel products, services, or production processes have long been viewed as meritocratic in the entrepreneurship and innovation literature (Ahl & Nelson, 2015; Crossan & Apaydin, 2010; Mole & Ram, 2012).

The assumption that all people are equally capable of participating in innovation processes has, however, been repeatedly proven wrong (Ahl & Marlow, 2012), especially when the gender of entrepreneurs is taken into account (Bell et al., 2020; Berger & Kuckertz, 2016; Nielsen et al., 2018). Research suggests that still prevalent gender role stereotypes – that is, the gendered classification of professions as more masculine or

feminine (Gupta et al., 2009; Heilman, 1983) – which associate entrepreneurship primarily with white, middle-aged Western men, foster a gender hierarchy among entrepreneurs (Bullough et al., 2022; Lewis et al., 2017; Marlow & Martinez Dy, 2018). The masculinized portrayal of entrepreneurship has been found to position women’s entrepreneurial innovation activities as deviating from a supposed norm, putting them at a disadvantage in accessing relevant resources and thus in realizing the innovation potential they have identified (Bruni et al., 2004; Marlow & McAdam, 2013).

Much of the literature is devoted to how gender role stereotypes and other systematic biases determine the subordinate position of women’s innovation activities (Alsos et al., 2013; Foss & Henry, 2016; Marlow et al., 2019). In comparison, few studies have taken the perspective of women and examined their patterns of action in response to these stereotypes (see Essers and Benschop (2009), McAdam and Marlow (2013), and Díaz-García and Welter (2013) for notable exceptions). One possible reason for the paucity of research in this area is the justified criticism that women should not be held solely responsible for breaking up historically shaped social structures (Foss & Henry, 2016). However, during my ethnographic study in a leading startup ecosystem, I observed that many women entrepreneurs use their agency to respond to gender role stereotypes related to their innovation performance that do not align with their self-perception. This leads to interesting dynamics between the social part of their self, i.e. their perception of how other

E-mail address: [janina.sundermeier@fu-berlin.de](mailto:janina.sundermeier@fu-berlin.de).

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actors in the ecosystem assess their innovation performance, and the actions they take to respond to, and in some cases combat, stereotypes that deem them less capable innovators.

Nevertheless, existing literature remains largely silent on theoretically sound explanations how the gender role stereotypes associated with entrepreneurship are embedded in women's experiences of conducting innovation activities (Ahl & Nelson, 2010; Foss & Henry, 2016; Marlow et al., 2019). To remedy this shortcoming and enable theory development on the influence of gender on innovation processes and outcomes, this study conceptualizes stereotypes as socially constructed, positioning men more favorably in accessing key resources for their innovation activities (Bell et al., 2020). Using Herbert Mead's (1934) symbolic interactionist framework as a theoretical foundation, this study seeks to explain the mechanisms by which women entrepreneurs derive meaning from gender role stereotypes held by external parties relevant to their venture creation. It also examines how these stereotypes influence women's execution of entrepreneurial innovation activities and their motivation to counteract stereotypes they perceive as unrepresentative.

To capture such stereotypes and their implications, I conducted a four-year ethnographic field study in one of Europe's leading startup ecosystems. In close interaction with founders, investors, political representatives, startup advisors, and women's advocates, I was able to gain a broad data base that allowed me to derive answers to the following research question: *How do women entrepreneurs perceive and respond to gender role stereotypes associated with their innovation activities?*

Against this background, I make three contributions to the literature on gender and innovation, particularly in the context of entrepreneurship. First, I complement the literature contributing to the 'system view', which encompasses the social structures and systematic biases that determine the subordinate position of women entrepreneurs' innovation activities due to their gender, with the 'women's view', i.e. their agency in reflecting and responding to gender role stereotypes. Rather than showing women as victims of their subordinate positioning, the data indicates that they are actively developing strategies to cope with the challenges arising from stereotypical thinking in connection with their innovation activities. Second, I contribute to the literature on the (limited) inclusiveness of innovation activities by deconstructing gender role stereotypes that promote the reproduction of masculine norms in the performance of entrepreneurial innovation activities. In particular, I identify explicit stereotypes associated with women entrepreneurs who explore and exploit innovation potentials, as produced and reproduced by actors within an institutional field. Third, I extend existing theorizing on the implications of gender in relation to the performance of innovation activities in entrepreneurship contexts. To this end, I show how the identified stereotypes influence women in their execution of crucial entrepreneurial innovation activities.

## 2. Symbolic interactionism and entrepreneurial innovation activities

### 2.1. The social constructions of gender

The first studies to address the limited inclusiveness of entrepreneurial innovation activities focused primarily on the extent to which women entrepreneurs differ from their male counterparts in terms of their psychological dispositions (Fagenson, 1993; Sexton & Bowman-Upton, 1990), entrepreneurial intentions (Fischer et al., 1993; Scherer et al., 1990), risk-taking propensities (Masters & Meier, 1988), or approaches to handling difficulties during venture creation (Birley, 1989). However, when structural factors and potential gender biases in measuring instruments were controlled, only minor cross-sex differences could have been determined (Ahl, 2006; Gatewood et al., 2009; Hughes et al., 2012). As a consequence, the practice of benchmarking women entrepreneurs against an unquestioned masculine norm of entrepreneurial innovation activities is questioned (Marlow & Martinez Dy,

2018).

This critique led to the rise of studies focusing on how stereotypes associated with femininity and masculinity are embedded in the experiences of founders in carrying out relevant activities (Ahl & Nelson, 2010; Gartzia & Baniandrés, 2019; Nandkeolyar et al., 2022). As such, it was found that public, political, and entrepreneurship discourses still convey an idealized image of startup founders that corresponds to characteristics, such as risk-taking, competitiveness, ambition, and individualism, which are seen as reflecting masculinity (Ahl & Marlow, 2012, 2019; Bruni et al., 2004). Although entrepreneurship scholars have found little to no evidence for any actual gender differences in the above-mentioned characteristics (Bowen & Hisrich, 1986; Brush, 1992; Sexton & Bowman-Upton, 1990), the predominant archetype of a startup founder as a heterosexual white man remains (Marlow et al., 2019).

To examine such stereotypes and their impacts, this study conceptualizes them as socially constructed, which has several theoretical implications for this study's understanding of how gender influences women in the execution of entrepreneurial innovation activities. First, gender is not understood as a woman's characteristic property, but rather as an unstable and ambiguous social construction that is constantly enacted among actors and institutions involved in venture creation processes. This implies that gender role stereotypes associated with entrepreneurship vary over time and context (Acker, 1992; West & Zimmerman, 1987). Second, it emphasizes the subjectivity of gender, which refers to its influence on how women identify and make sense of themselves (Calás & Smircich, 1996). In fact, gender is found to be one of the most crucial human identity markers that determines how we define ourselves as comprehensible social actors (Ahl, 2004; Marlow & McAdam, 2013). It therefore has a decisive influence on the entrepreneurial innovation activities of women, who – like all other human actors – cannot detach themselves from the societal expectations and obligations they associate with the gender with which they identify (Butler, 1990, 1993). Third, it stresses the power of gender role stereotypes for subject positions (Kelan, 2018), i.e., how women entrepreneurs perceive their position within a social order in relation to others.

Following this understanding of gender and its social enactment, I propose that women entrepreneurs are influenced in the performance of activities associated with the exploration and exploitation of innovation potentials through the dynamic social ascriptions associated with 'their' gender held by actors and institutions relevant to their venture creation process. This proposition implies that women are thus expected to be decisively influenced by how they subjectively make sense of gender role stereotypes and how they interpret the social expectations and obligations ascribed to the gender with which they identify. To date, much research contributes findings to the 'system view', i.e. how social structures and systematic biases determine gender role stereotypes, but there are only few insights into the 'women's view', i.e. how such stereotypes influence them in their actual activities. Preliminary insights suggest that women entrepreneurs need to engage in identity work (Díaz-García & Welter, 2013; Essers & Benschop, 2009), for example by positioning themselves against prevailing gender norms (Maura McAdam & Marlow, 2013; Stead, 2017), but a comprehensive understanding of the dynamic relationship between gender role stereotypes and entrepreneurial innovation activities is still missing.

### 2.2. Symbolic interactionism: Linking gender and entrepreneurial innovation activities

To derive a theoretical basis for explaining how gender role stereotypes influence the execution of entrepreneurial innovation activities, I draw on the central premises of Mead's (1934) symbolic interactionism framework that guides the explorative data collection and analysis of this study (Fig. 1).

The core premise of symbolic interactionism is that reality unfolds

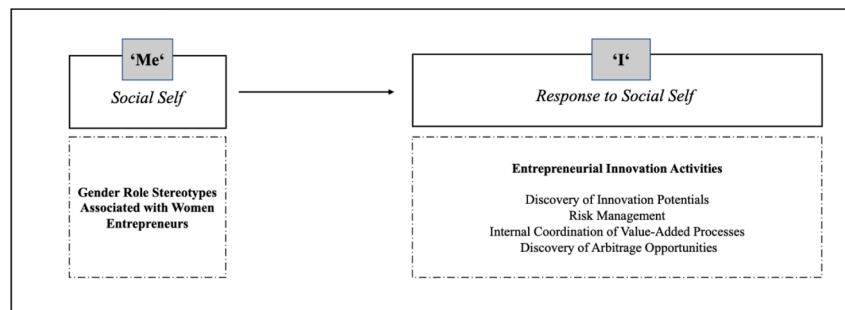


Fig. 1. Theoretical framework.

through social interactions that give meaning to the self (Blumer, 1969; Chang, 2004; Pike & Schwalbe, 2002). These interactions promote a continuous and multifaceted conversation between the 'I' and the 'Me' of an individual. The latter is defined by the *social self*, which consists of the individual's beliefs about how society sees that person (Mead, 1934). The 'Me' thus represents the externally directed part of individuals, which is decisively influenced by their perception of what is ascribed to them by relevant actors and institutions (Blumer, 1969; Chang, 2004). Mead (1934) admits individual differences in the degree of conformity with gender role stereotypes, but emphasizes the impossibility of detaching oneself from the influences of the social self. This implies that the externally directed 'Me' thus exerts control over the 'I' – the *response to the social self*. In particular, *“the 'I' is the immediate response of an individual to others. It is the incalculable, unpredictable and creative aspect of the self.”* (Ritzer & Stepnisky, 2017, p. 338). The 'I' is, therefore, the self-directed part of each individual that is expressed through actions that depend on the degree of conformity with the externally constructed social self (Blumer, 1969; Mead, 1934; Pike & Schwalbe, 2002). From the perspective of symbolic interactionism, it is therefore assumed that it is not purely rational considerations, but individual responses to the social self, which in turn are defined through gender role stereotypes and related societal expectations (Chang, 2004), that influence the execution of entrepreneurial innovation activities.

Previous research has shown that especially women entrepreneurs are influenced by their social self (Baughn et al., 2006; Klyver et al., 2013; Langowitz & Morgan, 2003), since the stereotypes associated with their gender still do not match the prevailing image of who and what it takes to succeed in the entrepreneurial role (Ahl, 2006; Marlow et al., 2019; Marlow & Martinez Dy, 2018). As a consequence, women are found to have difficulties in identifying themselves with the role associated with startup founders (Klyver et al., 2013; Verheul et al., 2005; Wilson et al., 2007), ultimately leading them to pursue career paths that society deems more appropriate for them (Achtenhagen & Welter, 2003; Carter et al., 2003). These findings indicate that the 'Me', the *social self* of women, has a strong influence on whether they choose a career as a startup founder at all, which is also reflected in the comparatively low number of women entrepreneurs in leading startup ecosystems worldwide (Berger & Kuckertz, 2016). The response to their social self (their 'I') is, therefore, to pursue alternative career paths instead. However, even women who do decide to launch their own startups are decisively influenced in their activities by stereotypes associated with *'their'* gender. In particular, it is found that actors and institutions relevant to their venture creation processes still produce and reproduce masculine norms (Ahl & Marlow, 2019; Ahl & Nelson, 2015; Klyver et al., 2013; Verheul et al., 2005), which require them to respond to the resulting environments that are, if not outright hostile, oftentimes less than encouraging (Ingersoll et al., 2023; Langowitz & Minniti, 2007) and contribute to difficulties in assessing financial resources (Becker-Blease & Sohl, 2007; Gatewood et al., 2009; Kanze et al., 2018). However, the state of theory development regarding the question of what kind of stereotypes associated with *'their'* gender are experienced by women entrepreneurs (their 'Me') and how these stereotypes affect them in the

execution of entrepreneurial innovation activities (their 'I') is still nascent (Alsos et al., 2013; Foss & Henry, 2016; Marlow et al., 2019).

To examine the relationship between gender role stereotypes and women's innovation activities, I draw upon the work of Sundermeier et al. (2020), who reviewed classical economic and entrepreneurial theories to identify four entrepreneurial innovation activities: (1) the discovery of innovation potentials (Hébert & Link, 1988; Schumpeter, 1934), (2) risk management (Knight, 1921), (3) the internal coordination of value-added processes (Casson, 1982; Gartner, 1988), and (4) the discovery of arbitrage opportunities (Kirzner, 1973; Mises, 1949). The former two encompass the explorative activities that contribute to the identification of innovation potentials through the (re)combination of resources. To effectively execute related activities, entrepreneurs need to absorb uncertainties, and shoulder the responsibilities associated with the creation of novel products, services, production processes, and the like. For the exploitative part, founders need to ensure the efficient internal coordination of value-added activities, including sense-making leadership initiatives that guide their employees, and the discovery of profit opportunities in different markets (Sundermeier et al., 2020).

The theoretical framework as displayed in Fig. 1 combines these activities under the central premise of symbolic interactionism to systematically structure the explorative analysis of women entrepreneurs' responses (their 'I') to stereotypes associated with *'their'* gender (their 'Me') regarding the exploration and exploitation of innovation potentials.

### 3. Methodology

To deconstruct gender role stereotypes associated with women's exploration and exploitation of innovation potential, I choose a constructivist epistemology, as theory development in this area is still at a nascent stage (Edmondson & McManus, 2007). To collect relevant data, I conducted an ethnographic field study within the Berlin startup ecosystem. Building on Spiegel's (2017) conceptualization, I view a startup ecosystem as *“the union of localized cultural outlooks, social networks, investment capital, universities, and active economic policies that create environments supportive of innovation-based ventures.”* (p. 49). This ecosystem is hence shaped and governed by a variety of actors, including new ventures, policy representatives, universities, capital providers, talent, mentors, and support services. To capture a comprehensive range of opinions and perspectives, I aimed to gather insights from as many of these actors as possible.

#### 3.1. Research context

In terms of the amount of venture capital (VC) investment, Berlin occupies a top position among the various startup ecosystems in Europe (Statista, 2023). Nevertheless, Berlin has the lowest number of women involved in entrepreneurship compared to the global average (Berger & Kuckertz, 2016; Crunchbase, 2022), which recently prompted the former Federal Minister Economics and Energy, Brigitte Zypries, to issue a warning: *“The [German] startup scene still has some catching up to do.*

Above all, it needs one thing: far more women! According to the latest figures from the Female Founders Monitor, their share still only stands at just under 16 percent. This is only a tiny increase compared with the previous year. Thus, the situation we see on the executive floors of our large corporations is being repeated in the startup sector – women are drastically underrepresented and despite all our efforts, nothing really changes” (Hirschfeld et al., 2020, p. 3).

The reasons for women’s underrepresentation are the result of complex, historically shaped institutional and social conditions (Achtenhagen & Welter, 2003). Decisive factors are the rather traditional division of work (men) and childcare (women) that has existed for decades, the low level of social security in connection with entrepreneurial activity and the comparatively low social esteem in which women’s employment is held in West Germany, which is only changing slowly (Bergmann & Sternberg, 2007; Welter, 2004). These institutional constraints are reinforced through the prevailing ambiguous image of entrepreneurship as a masculine and, therefore, an overall less desirable career path for women (Hirschfeld et al., 2020; Sundermeier & Steenblock, 2023).

Those women who nevertheless found companies in the Berlin startup ecosystem are on average 35 years old, hold a university degree, mostly in the humanities, the social or the natural sciences, have several years of professional experience, and pursue their venture creation processes mostly in teams of 2–3 founders. As with men, their entrepreneurial goals are primarily driven by economic objectives, although they additionally place a comparatively high value on meeting social goals (Kollmann et al., 2020). In terms of the industries they are active in, the majority of women entrepreneurs can be found in medicine and health care (16.7 %), consumer goods (12.3 %), textile (10.8 %), nutrition and food (8.8 %), education (8.8 %), and human resources (6.4 %) (Hirschfeld et al., 2020).

### 3.2. Data collection and triangulation

To capture the prevailing gender role stereotypes among the actors and institutions shaping entrepreneurial activities and explore “how gender positions women in relation to others with whom they interact” (Marlow & Martinez Dy, 2018, p. 16), I actively engaged in the Berlin startup ecosystem between March 2019 and May 2023. This meant that I participated in numerous events, such as panel discussions (N=12), roundtables (N=6), networking (N=38), business plan competitions (N=10), startup fairs and conferences (N=14), Meetups® (N=29) and more. Of the 109 events I attended, 56 were one-off events, while the other 53 were part of various event series that took place on a regular basis. To ensure that I was able to capture gender role stereotypes without influencing the opinions or narratives of different actors in the startup ecosystem, I only included data from events where I appeared as a guest without an official role. All events were organized by different parties, were mostly free and open to the public.

In particular, the networking phases during or after the events provided countless opportunities for informal interviews with different actors in the ecosystem. As detailed in Table 1, I observed and interviewed various actors from different industries, such as founders and their employees, investors, political representatives, and activists for women’s entrepreneurship empowerment. On average, I had 2.5 encounters with each actor, which allowed me to regularly interact with them over the course of data collection. To do this, I actively approached the various actors and for the most part informed them that as a scientist I am interested in gender issues that affect our startup ecosystem and that the content of our conversation will potentially become part of a research project and that they can therefore withdraw from the conversation at any time if they wish. I usually started the conversations, which lasted 18 min on average, by asking them to elaborate on specific points they had raised in their official role during the event, or I asked them for their opinion on the state of gender equality in the startup world to start the conversation. To ensure that the interviewees drove

**Table 1**  
Overview of informal interviews.

Informal Interviews		
Description		Field Notes
<b>Founders &amp; Employees</b>	<ul style="list-style-type: none"> <li>Female (Interviewees were asked to state the gender they identify with.) (N=46, total number of encounters = 112)</li> <li>Industries: (Mental) Health (N=8), Education (N=4), E-Commerce (N=4), Textile (N=10), Nutrition and Food (N=8), Human Resources (N=4), Consumer Goods (N=8)</li> </ul>	286 pages
	<ul style="list-style-type: none"> <li>Male<sup>1</sup> (N=39, total number of encounters = 72)</li> <li>Industries: (Mental) Health (N=3), Education (N=8), E-Commerce (N=16), Textile (N=2), Nutrition and Food (N=2), Mobile Games (N=3), Consumer Goods (N=5)</li> </ul>	216 pages
<b>Investors</b>	<ul style="list-style-type: none"> <li>Female (N=17, total number of encounters = 44)</li> <li>Business Angel (N=8), Venture Capitalist (N=4), Banking Institutions (N=5)</li> </ul>	137 pages
	<ul style="list-style-type: none"> <li>Male (N=19, total number of encounters = 22)</li> <li>Business Angel (N=10), Venture Capitalist (N=6), Banking Institutions (N=3)</li> </ul>	163 pages
<b>Policy Representatives</b>	<ul style="list-style-type: none"> <li>Female (N=9, total number of encounters = 16)</li> </ul>	7 pages
	<ul style="list-style-type: none"> <li>Male (N=14, total number of encounters = 24)</li> </ul>	19 pages
<b>Startup Consultants</b>	<ul style="list-style-type: none"> <li>Female (N=11, total number of encounters = 16)</li> </ul>	36 pages
	<ul style="list-style-type: none"> <li>Male (N=12, total number of encounters = 16)</li> </ul>	14 pages
<b>Women’s Entrepreneurship Empowerment Activists</b>	<ul style="list-style-type: none"> <li>Female (N=8, total number of encounters = 14)</li> </ul>	12 pages
	<ul style="list-style-type: none"> <li>Male (N=4, total number of encounters = 5)</li> </ul>	12 pages
<b>Startup Support Services</b>	<ul style="list-style-type: none"> <li>Female (N=5, total number of encounters = 9)</li> </ul>	2 pages
	<ul style="list-style-type: none"> <li>Male (N=7, total number of encounters = 9)</li> </ul>	3 pages

the flow of the conversation with their ideas, attitudes, and experiences, I took on the role of an active listener. I had only prepared a rough guide of questions aimed at finding out how they perceive stereotypes associated with the entrepreneurial role, what feelings they evoke and what strategies, if any, they develop to respond to these stereotypes. By asking interviewees about their business and experiences, I made sure to only include data from startup founders, i.e. those who are creating scalable and innovative business models with limited resources (Shane & Venkataraman, 2000). In addition to these informal interviews, I also listened to informal exchanges between other guests at the event.

Whenever possible, I took notes during these events and worked on them immediately afterwards. After each event, it took me an average of two hours to sit down, complete the field notes I had taken during the event from memory and write down the observations, thoughts, and impressions I had gained. To triangulate this main source of data, I additionally followed media coverage of startup ecosystem activities. The data pool I have generated includes transcripts of podcasts, video recordings of interviews with actors, such as founders, investors and long-time insiders of the ecosystem, blog posts, news articles from online startup magazines focused on Berlin, and online discussions in response to the aforementioned publications. Drawing on these multiple sources allows to triangulate the data and to address potential methodological, single-method, weaknesses, which in turn increases the validity and reliability of this qualitative research design (Corbin & Strauss, 2012).



3.3. Data coding and analysis

For data coding and analysis, I followed the Gioia methodology, which offers well-established procedures to systematically and comprehensively analyze large amounts of qualitative data for theory development (Gioia et al., 2013). In particular, I gradually aggregated the data in four iterative steps: (1) I started by coding first-order ‘in-vivo’ concepts that captured the relevant words and phrases that were found as such in the field notes (Corbin & Strauss, 2012), (2) these concepts were carefully merged in first-order categories (3) that were then compared to identify theoretically informed second-order themes by iteratively going back and forth between the data and relevant literature (Corley & Gioia, 2004; Glaser, 1978). In a last step (4), I built eight overarching aggregate dimensions, two for each of the four entrepreneurial innovation activities considered, i.e., the discovery of innovation potentials, risk management, the internal coordination of value-added processes, and the discovery of arbitrage opportunities (see Fig. 1). The first dimension reflects the gender role stereotypes associated with women entrepreneurs performing innovation activities and the second shows the implications of such ascriptions for their execution of relevant activities. To ensure intercoder reliability, all data was coded separately by a PhD student involved in the field of women’s entrepreneurship, a

student assistant, and myself. The outcomes of the coding processes were regularly discussed over the course of 6 months, to challenge interpretations, identify gaps in the data, and iteratively refine the analysis.

4. Analysis

In the following, I present the findings of the data analysis separately for each of the four entrepreneurial innovation activities (Fig. 1). For maximum transparency, each section contains detailed Figures that stepwise illustrate the emerging data structure and representative first-order data.

4.1. Women entrepreneurs’ explorative innovation activities

The data indicates that women entrepreneurs tend to be ascribed to explore ‘innovation potentials with limited scope’ and to be ‘risk-conscious in the handling of innovation processes’. These stereotypes have crucial implications for women’s execution of explorative innovation behaviors as they are required to constantly ‘(re)build inner and outer legitimacy’, which they do by ‘confronting third parties with stereotypical images’ that influence them in their assessment of the risk

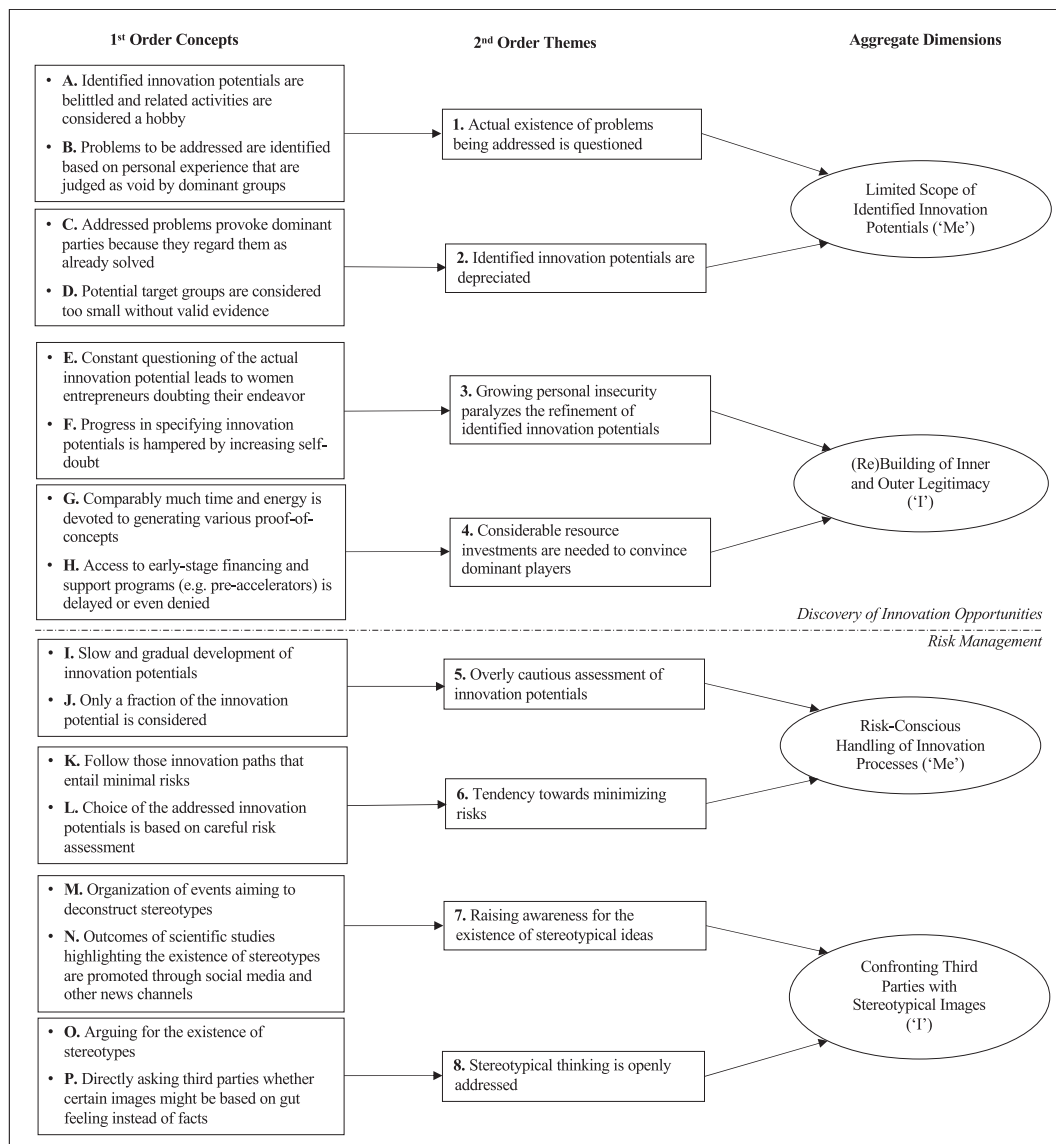


Fig. 2. Data structure for women’s explorative innovation activities.

management activities executed by women entrepreneurs. Fig. 2 illustrate the emerging data structure and Table 2 representative quotes from the data pool.

4.1.1. Discovery of innovation potentials

4.1.1.1. Stereotype ('Me'): Limited scope of identified innovation potentials. Several women entrepreneurs described instances in which the problems they aimed to tackle with their innovative solutions were called into question (1). For example, one of the founders who developed a non-chemical texture that could replace potentially harmful substances in popular beauty products remembered being initially treated "like a naïve, little girl with big dreams far from reality. My contact person at a large beauty company called my proof-of-concept an 'illusion'." (Founder\_17\_w). Similar experiences were reported by four women who used their parental leave to dedicate time and efforts in the validation of business ideas which they had already fostered for several years. Each of these women are now leading their own venture with between 23–250 employees, but despite these successes, they encountered situations in which "my private and professional networks were very surprised when I first told them about my plans. They didn't really listen to what it was all about but treated my idea like it came from a bored housewife that needed some diversion from childcaring." (Founder\_9\_w).

In addition, several women entrepreneurs experienced the denigration of the innovation potential they identified by dominant parties in the startup ecosystem (2), e.g., established startups already in the market, investors, or startup news publishers. For instance, one team of two women reported that the opening of their exclusive business club for women required constant justifications that such a club is meeting an actual need: "I vividly remember being involved in a panel discussion with some other founders of big co-working spaces, and instead of discussing what is really missing and what really matters, it seemed that they only wanted to corner us with questions, like 'Do we really need another club?', 'So, the only unique selling point is that it's exclusive for women?'" (Founder\_6\_w). During the networking event and several chats with the mostly male panelists, it became evident that the providers of established clubs and co-working spaces were hesitant to believe in the vision of the two women because they did not see any gender-related issues in their own offers: "men and women are working alongside each other perfectly well, and I really don't see any problems in that." (Founder\_19\_m).

Interestingly, a comparison of actors who address innovation potentials related to female career advancements indicates that related business opportunities are primarily detected by women, almost all of whom in my sample experienced some kind of disparagement by dominant players, in the form of questions, such as "do we really need another offer for women?" (Founder\_11\_w) or "are there really any gender inequalities that we haven't solved yet?" (PolicyRepresentative\_9\_m). These statements mirror the fact that the target groups that women entrepreneurs seek to address are often underestimated by dominant parties. For instance, several women who established thriving ventures in the areas of mental health, reduction of food waste, and online therapy were initially recommended "to be more conservative in the assessment of the market potential" (Founder\_2\_w), "to properly reflect the size of the group that would be actually interested in my value proposition" (Founder\_13\_w), and "to be less overconfident in [the] estimation of the actual potential of my idea." (Founder\_38\_w). The previously described stereotypes have several implications for the execution of related activities as described in the following.

4.1.1.2. Behavioral response ('I'): (Re)building of inner and outer legitimacy. Most women whose cases were cited above described how their confidence in the relevance of the innovation potential they identified was increasingly undermined by doubt (3). The developer of the non-chemical texture for beauty products, for instance, recalled that "of course there are doubts. Every founder has to deal with criticism, this is

**Table 2**  
Representative data for women's explorative innovation activities.

Second-order themes and first-order concepts	Representative data
<b>Discovery of Innovation Potentials</b> Aggregate dimension: <b>Limited scope of identified innovation potentials ('Me')</b>	
1. Actual existence of problems being addressed is questioned Identified innovation potentials are belittled and related activities are considered a hobby	"We were not taken very seriously in the beginning and many didn't expect that we actually quit our secure jobs to work full time on our vision. I think we surprised many who thought that our idea was somehow 'nice', but not serious." (Founder_6_w).
Problems to be addressed are identified based on personal experience that are judged as void by dominant groups	"I think many of the people we pitched our idea to don't have any children or just don't see them much, which makes it difficult to grasp the full potential. It took a while to recognize that many critics who doubted the potential of my idea were not necessarily part – or even far away – from my target group" (Founder_11_w).
2. Identified innovation potentials are depreciated Addressed problems provoke dominant parties because they regard them as already solved	"I think that my idea provoked especially those fathers who don't spend too much time with their children. Especially those questioned my idea and doubted that there is actually a need for my products." (Founder_18_w).
Potential target groups are considered too small without valid evidence	"My target group are women who are about to get their first child and care for the environmental belongings. As an investor aged 60 without own children, you need quite some self-confidence to be able to claim that there is not much market potential." (Founder_21_w).
<b>Aggregate dimension: (Re)building of inner and outer legitimacy ('I')</b>	
3. Growing personal insecurity paralyzes the refinement of identified innovation potentials Constant questioning of the actual innovation potential leads to women entrepreneurs doubting their endeavor Progress in specifying innovation potentials is hampered by increasing self-doubt	"I really don't know how it happened that I'm still here. All the doubts in my idea were so demoralizing." (Founder_5_w).
4. Considerable resource investments are needed to convince dominant players Comparably much time and energy are devoted to generating various proof-of-concepts	"Have you ever heard about imposter syndrome? It's incredible how much it takes of your time and energy to worry about doubts that are not even your own." (Founder_31_w).
Access to early-stage financing and support programs (e.g., pre-accelerators) is delayed or even denied	"I had generated four proof-of-concepts. Four! I just had the impression that I was required to do so. I haven't met anybody with four proofs yet" (Founder_8_w).
<b>Risk Management</b> Aggregate dimension: <b>Risk-conscious handling of innovation processes ('Me')</b>	
5. Overly cautious assessment of innovation potentials Slow and gradual development of innovation potentials Only a fraction of the innovation potential is considered	"I don't know what they expected. But our proofs were considered invalid, which was ultimately the reason that we were not selected for the program." (Founder_17_w).
6. Tendency towards minimizing risks Follow those innovation paths that entail minimal risks	"Women gradually develop their innovation potentials step-by-step." (Investor_2_m).
Choice of the addressed innovation potentials is based on careful risk assessment	"Women are smart, often much smarter than the other participants in our program. The challenge is only their hesitance to go 'all-in' and envision the full potential of their ideas" (SupportService_4_m).
<b>Aggregate dimension: Confronting third parties with stereotypical images ('I')</b>	
7. Raising awareness for the existence of stereotypical ideas Organization of events aiming to deconstruct stereotypes	"In my experience, and I would say I have seen some startups throughout the last 25 years, women tend to follow those innovation paths that correspond to their low risk appetite." (Investor_1_m).
	"With women, you can be sure that they have considered every probable and less probable risk." (PolicyRepresentative_2_m).
	"We first thought that we will have two or three events until people get bored, but it's

(continued on next page)

Table 2 (continued)

Second-order themes and first-order concepts	Representative data
Outcomes of scientific studies highlighting the existence of stereotypes are promoted through social media and other news channels	amazing to see how many stereotypes still exist.” (EmpowermentActivist_4_w). “We are well aware of study results and won’t keep silent in highlighting the still existing, but somehow rather denied, existence of stereotypical images.” (SupportService_5_w).
8. Stereotypical thinking is openly addressed Arguing for the existence of stereotypes	“Most people believe that we are done with stereotypical thinking in our startup bubble. We constantly need to show them that we’re actually far from being done.” (EmpowermentActivist_2_w).
Directly asking third parties whether certain images might be based on gut feeling instead of facts	“Do you have any evidence for your assumption that women are more risk averse?” is probably the most unmasking questions you could ask. But it’s definitely worth it!” (Founder_30_w).

business, not a kindergarten. But in my case, I felt that my ego wasn’t strong enough to cope with this repeated questioning of everything I said.” (Founder\_17\_w). Similarly, the founders of the business club for women described how “our doubts about the idea grew bigger and bigger until we realized that it was only the men who questioned its potential. Every time we talked to women, especially those in our target group, we got only overwhelmingly positive feedback.” (Founder\_6\_w). These examples indicate that constantly questioning the innovation potentials identified by women does not only increase their doubts, but also hinders their progress in refining the identified innovation potential. In response to these (self)doubts, several women gave up their ideas.

Besides trying to overcome their inner doubts, the women entrepreneurs I observed also reported that they had to devote considerable resources to convince dominant players of the credibility of their ideas (4). One woman who successfully set up a venture capital fund targeting women entrepreneurs in technology-related industries observed that, during her 10 years of experience investing in startups, “women are always asked to walk the extra mile. As a man, you could easily get your first funding by proving 500–1000 subscriptions for your beta. As a woman you need at least 2000 for the very same idea.” (Investor\_4\_w). These requirements affect women’s access to early-stage financing and pre-accelerator programs dedicated to support the exploration of innovation potentials.

#### 4.1.2. Risk management

4.1.2.1. Stereotype (‘Me’): Risk-conscious handling of innovation processes. The analysis of the data also shows that one stereotype associated with the risk management of women entrepreneurs is that they are believed to be overly cautious in assessing the potential for innovation (5). When being asked about whether they had any gender preferences for potential co-founders, two men replied: “what counts first are the skills and the mindset – no matter if woman or man. But we both are makers, we don’t talk much, but we try, fail and try again. I think this is a mindset that you would find more often with men.” (Founder\_9\_m). A venture capitalist standing next to us during this conversation added: “I’m certainly not influenced by gender when I decide whether to invest or not. (...). But what the two just described resonates with my experiences. Women are just more cautious and focused on slow progress to avoid failing.” (Investor\_1\_m). These stereotypes were shared by several investors who described women as “cautious and slow risk-takers” (Investor\_6\_m) who “gradually proceed in assessing the risks of each innovation pathway until they believe they have grasped the full risk picture.” (Investor\_5\_m). Several of the women I accompanied were confronted with these stereotypes during investment negotiations: “the one guy we pitched our idea to was absolutely convinced that we have only considered a very small part of the actual

innovation potential and sent us home to do our ‘homework.’” (Founder\_19\_w).

The ascribed tendencies of women entrepreneurs to minimize risks in dealing with innovation processes (6) is strongly represented in the data. The question of why there are so few women entrepreneurs in the startup ecosystem was often answered with a variation on the following statements: “women are very risk averse, and this does not really match the founding of a company” (Investor\_2\_m), “risk and women? We’ve come a long way, but it still doesn’t fit together” (PolicyRepresentative\_4\_m), or “most people would probably tell you that women do not engage in risky activities.” (Founder\_12\_w). Nevertheless, most women entrepreneurs I accompanied describe a strong discrepancy between their ascribed and their actual handling of risk. The two founders of the business club for women recalled how they were expected to only decide for those options that entail minimal risks: “our investors always believed that we would take the path that entails only very low risks and they always tried to challenge us to consider more riskier pathways. It was just striking that we never articulated any ambition to proceed as slowly.” (Founder\_6\_w). These discrepancies were also brought up during the open discussion sessions between panelists and the audience at various events: “do you have any evidence that women are indeed more cautious in the handling of risks?” (Startup-Consultant\_6\_m), or “I really think that we need to stop reproducing this image of the risk averse women” (Investor\_8\_w). The investors behind the latter statement elaborated in more detail during an informal conversation that “there is still this image that women think through every possible risk. I mean, this is true, but it is also true for men. However, only women receive a more negative evaluation of their companies and often considerably less money compared to their male counterparts.” (ibid). These experiences were also made by participants of a pitching event with early-stage investors: “why did we not talk more about the prospects? I mean, the guy who pitched before me obviously didn’t think through a single risk, and yet they were just talking about what he might be able to achieve.” (Founder\_3\_w).

4.1.2.2. Behavioral response (‘I’): Confronting third parties with stereotypical images. The previously outlined stereotypes associated with women entrepreneurs’ proclivities towards risk management have, undoubtedly, considerable implications for their explorative innovation activities. The data suggest that many women entrepreneurs actively confront third parties with their stereotypical images. Many women’s empowerment activists and initiators of startup support programs directed towards women entrepreneurs actively raise awareness for the existence of stereotypical ideas about women’s risk management (7): “the first thing you hear when you would ask somebody about the reasons for the low proportion of women entrepreneurs, it’s most likely that women aren’t risk-takers. Just repeating this idea without any reliable evidence doesn’t help at all but is rather detrimental. We regularly organize panels to deconstruct these ideas.” (EmpowermentActivist\_6\_w). Similarly, also an initiator of a popular support program describes that “we usually end the first or second day [of our program] with a public panel discussion on the stereotypes about women starting up a business. Their supposedly lower risk appetite is always a hot topic, but then we have founders like Anna and Maria on the panel. Everybody knows them and they are probably the least risk-averse founders you will find here.” (SupportService\_3\_w). Another organizer of investment events aimed at women entrepreneurs reports how “we started these events without specific instructions for investors. The first round was a disaster, as many women felt that they were fighting against images that did not match their own personality. Then we addressed the possible existence of stereotypes related to the way women deal with risk before each event, and it almost felt like an ‘aha moment’ for many investors.” (SupportService\_5\_w).

In addition to raising awareness, the data contains various instances where such stereotypical thinking is openly challenged (8). Especially the women’s empowerment activists emphasized that “we should never get tired of arguing for the existence of stereotypes. Many of those are invisible and probably not even conscious but remaining silent is not an option.”

(EmpowermentActivist\_1\_w). Another one described how she provoked a discussion in response to a social media post made by a policy representative in his professional online business network: “He was in a powerful position, and I was scared to provoke a shitstorm, but how should I have ignored his statement about women having to be employed to feel secure? It got messy, but at the end I was able to make my point that not all women are these risk-averse little mice he wants us to be.” (EmpowermentActivist\_5\_w). Similarly, various women entrepreneurs described how they directly asked third parties “whether their ideas about my handling of risks could be biased” (Founder\_19\_w). One of them explained that “I often had the feeling that they wanted to challenge me in order to see if I would fit a certain image they had in mind.” (Founder\_29\_w).

4.2. Women entrepreneurs’ exploitative innovation activities

The empirical data contains many references to the stereotype that women are ‘emotionally conscious leaders’ that would rather ‘focus on niche markets’ than target mainstream markets, for the exploitation of once identified innovation potential. The emerging data structure and additional representative quotes are summarized in Fig. 3 and Table 3.

4.2.1. Internal coordination of value-added processes

4.2.1.1. Stereotype (‘Me’): Emotional conscious leadership. The constant repetition of the idea that women entrepreneurs are more emotionally-conscious seems to create an expectation that, even as leaders, they are responsive to personal problems faced by their employees (9). For instance, a father in his late 30 s was concerned that his private family

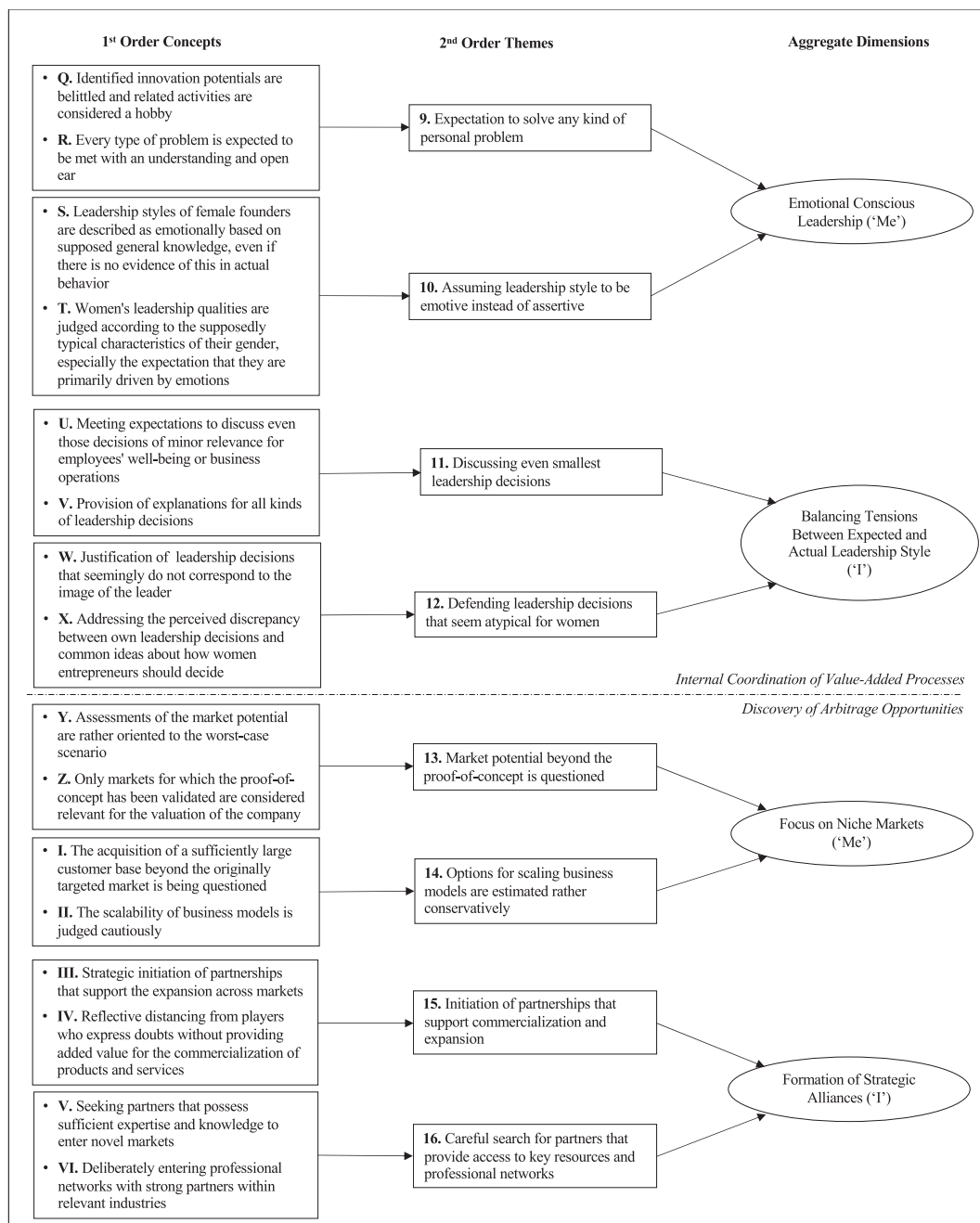


Fig. 3. Data structure for women’s exploitative innovation activities.



**Table 3**  
Representative data for women’s exploitative innovation activities.

Second-order themes and first-order concepts	Representative data
<b>Internal Coordination of Value-Added Processes Aggregate dimension: Emotional conscious leadership (‘Me’)</b>	
9. Expectation to solve any kind of personal problem Leadership skills are assessed based on the willingness to respond to individual problems	“I think she could do better by showing more willingness to discuss personal challenges. My family situation, for example, is difficult at the moment, but our founder doesn’t really seem to care.” (Employee_9_w).
Every type of problem is expected to be met with an understanding and open ear	“We really would need a new coffee machine and the company kitchen looks like a mess. I don’t feel comfortable like this and I expected our founder being a woman herself to be more understanding. She always says that her door is open if we encounter problems, but she only directs me to the HR staff.” (Employee_7_w).
10. Assuming leadership style to be emotive instead of assertive Leadership styles of female founders are described as emotionally based on supposed general knowledge, even if there is no evidence of this in actual behavior Women’s leadership qualities are judged according to the supposedly typical characteristics of their gender, especially the expectation that they are primarily driven by emotions	“I don’t know that many female founders, but from what I have heard, you definitely need to have a less emotional male counterpart leading the venture.” (Investor_6_m). “From what I have heard, I expect women to be driven by their emotions and I’m not really sure if this is the right approach to leading a startup with 50 employees.” (Investor_3_m).
<b>Aggregate dimension: Balancing tensions between expected and actual leadership style (‘I’)</b>	
11. Discussing even smallest leadership decisions Meeting expectations to discuss even those decisions of minor relevance for employees’ well-being or business operations	“I wish I wouldn’t care, but they expect me to explain each and every decision. I don’t want to disappoint them; this is why we established the ‘ask-me-anything’ every morning.” (Founder_5_w).
Provision of explanations for all kinds of leadership decisions	“If they want full transparency, they get full transparency for every decision. I’m not really sure who is actually leading this venture.” (Founder_31_w).
12. Defending leadership decisions that seem atypical for women Justification of leadership decisions that seemingly do not correspond to the image of the leader Addressing the perceived discrepancy between own leadership decisions and common ideas about how women entrepreneurs should decide	“I’m constantly justifying why I’m not the leader they have in their minds.” (Founder_11_w). “We have a board where every employee can indicate what he or she expects. And we have on person responsible to highlight stereotypes that have nothing to do with me as a person, but me being a woman.” (Founder_17_w).
<b>Discovery of Arbitrage Opportunities Aggregate dimension: Focus on niche markets (‘Me’)</b>	
13. Market potential beyond the proof-of-concept is questioned Leadership skills are assessed based on the willingness to respond to individual problems Only markets for which the proof-of-concept has been validated are considered relevant for the valuation of the company	“She is great, but she could do even better if she would care more about my family situation.” (Employee_2_w). “There’s still this image that women are overly cautious in the assessment of potentials across markets. Some of my colleagues hence assume that they don’t care too much about arbitrage opportunities and focus only on validated market potentials.” (Investor_4_w).
14. Options for scaling business models are estimated rather conservatively The acquisition of a sufficiently large customer base beyond the originally targeted market is being questioned	“Women are said to focus on what they have and to grow their ventures slowly. It’s quite difficult to assess prospects for other markets, which is why I prefer to rely on what they have achieved in terms of user acquisition.” (Investor_1_m).

**Table 3 (continued)**

Second-order themes and first-order concepts	Representative data
The scalability of business models is judged cautiously	“My girlfriends and me meet once a month for dinner and scalability is always a hot topic. We have so many ideas. Unfortunately, women are still not seen as hungry for growth and all of us have already experienced that some wise man wanted to show us the broad picture of our scalability options.” (Founder_31_w).
<b>Aggregate dimension: Formation of strategic alliances (‘I’)</b>	
15. Initiation of partnerships that support commercialization and expansion Strategic initiation of partnerships that support the expansion across markets	“No more compromises! I systematically look for people who can support my commercialization plans that are not limited to only Germany.” (Founder_17_w).
Reflective distancing from players who express doubts without providing added value for the commercialization of products and services	“It’s okay if people are busy, but I need multipliers that help me to grow. I let them know from the very beginning that I’m serious and expect them to be serious as well. If they set other priorities, I end our collaboration without wasting too much of my time.” (Founder_9_w).
16. Careful search for partners that provide access to key resources and professional networks Seeking partners that possess sufficient expertise and knowledge to enter novel markets	“It seems so obvious, but the best advice that I received lately was to quickly validate expertise and knowledge of potential partners. It saves so much time that I need to focus on growing the venture.” (Founder_11_w).
Deliberately entering professional networks with strong partners within relevant industries	“Networks are key if you want to grow and scale your business model. It’s just frustrating that there are so many, but after I while I found out which ones are valuable, and these are the only ones I’m active in.” (Founder_4_w).

challenges might interfere with his work duties and expected his boss to be understanding in her role as a mother: *“it’s kind of tough for my daughter now. We moved to another place, her best friend is no longer around the corner, and she will go to a new school soon. I just feel that she needs extra and I want to be with her as much as possible, which means that I might have to leave work early. I am really happy that our founder is a mother herself, because I feel that she can best relate to my challenges. This is probably not something I could bother a young, childless, founder wanting to raise the next unicorn with.”* (Employee\_4\_m). The founder herself who stood next to us during this conversation, approached me later to explain that she is *“listening to these types of personal problems because it seems to be an expectation that I need to fulfill as a woman, not because I have the time. Don’t get me wrong. We all struggle, we all have problems, combining family and work duties is an issue that I can completely relate to, but I hired two HR managers who are supposed to take care of these kinds of problems to ensure that I have enough time to focus on operations.”* (Founder\_12\_w). Similar expectations were expressed by numerous other employees of different startups, who assessed the leadership qualities of their bosses based on the willingness of the women entrepreneurs to get involved in personal problems: *“as a good leader, she should be more responsive to my burdens, she is a woman herself”* (Employee\_6\_w).

The women entrepreneurs themselves expressed that they felt obliged to act in accordance with a somehow established but for them elusive role model of a caring and understanding woman. One founder who was currently in the process of raising series B funding remembered that *“it was incredibly hard, especially in the beginning. I was on the verge of a burnout because, in addition to the daily business, I became an emotional dumping ground for all sorts of smaller private and professional problems that our employees were confronted with. It took me half a year to realize that they only approached me, but never my two male co-founders. It turned out that*

the reason why our employees did trust me more [on these matters] was not because of my qualities or abilities, but because they were convinced that, as a woman, I could identify better with their problems.” (Founder\_14\_w).

In addition, the data also contains ample evidence that women’s leadership styles are frequently characterized as being emotive instead of assertive by actors of the ecosystem (10). In this regard, two women who formed a team to create a platform for sharing parental responsibilities within a community of like-minded people reported that “several investors asked us to get a Head of HR on board and recommended several candidates, all men. Initially we thought that this was a misunderstanding and pointed out that we both have more than 10 years’ experience of building and leading teams. It turned out that it wasn’t about missing qualities but because of their expectations that we – as women – carry a bundle of emotions that is most likely to prevent us from being rational leaders that people would follow.” (Founder\_7\_w). The underlying assumption held by the investors in this example also became evident during several well-frequented panel discussions. On several occasions, the invited panelists and guests brought up that “women are rather the caretakers, they want to keep the flock together and even the weak sheep, which ultimately threatens the performance of the venture and discourages them to choose the path as new founders” (StartupConsultant\_2\_m), and that “women are great leaders, but from my experience I can tell that they are more interested in getting along instead of ahead, which is a burden in this competitive startup landscape” (Investor\_11\_m). Overall, these examples, and some more representative quotes in Table 2, suggest that the leadership qualities of women entrepreneurs are often judged based on stereotypical perceptions that characterize them as being driven by their emotions instead of by rational arguments, something that is seen as intrinsically detrimental to women leaders’ assertiveness.

**4.2.1.2. Behavioral response (‘I’): Balancing tensions between expected and actual leadership style.** The data indicates that the previously described stereotypes require women to invest considerable time and efforts to balance the tensions that arise from discrepancies between their expected and actual leadership style. These tensions imply that they feel obliged to discuss even the smallest leadership decisions (11), although the data shows interesting ambivalences between their thoughts and actual activities. While the data contains numerous variations on statements, such as “I don’t think that I should put every single decision out for discussion” (Founder\_3\_w) or “we are leading this startup, we don’t have to discuss every step” (Founder\_26\_w), most of the entrepreneurs admit that they still meet such expectations, ultimately discussing even those leadership decisions “which don’t affect the employees at all, neither their well-being nor their job” (Founder\_31\_w).

In search for explanations for the differences in the perceptions of a male or female leader’s behavior and how they should deal with internal tensions, the data shows that women entrepreneurs are often ascribed to “take decisions that are not really women-like. Whatever that means, but I’m often confronted with statements like ‘Person XY’ – mostly a man – ‘would have decided differently. I thought you would be more like him’.” (Founder\_23\_w). During a board meeting with her investors, one woman received the recommendation “to simply act more like a woman. They expect you to be understanding, so why do you want to fight against this image? Give them what they expect, and the problem is solved.” (Founder\_16\_w). Many women described how they developed strategies to address the perceived discrepancies between their leadership decisions and the commonly held ideas about how women should decide and lead their ventures (12). For instance, two women arranged workshops and round tables with their employees: “we invited a coach, we left the city for a day, and we worked out which sort of stereotypes we are presented with in our company. It turned out that many of our employees had very explicit ideas about how women should lead ventures, and it struck them that I’m different from their ideal.” (Founder\_8\_w). One of her employees recalled that “it took several weeks to digest the retreat, but at least some of us had some very strong ideas about female leaders that are probably deeply rooted

within ourselves. It seems that I wanted her to be like the image I’ve had in my head.” (Employee\_5\_m).

During a panel discussion on the existence of stereotypical ideas about women running new ventures, it was highlighted that, to lay bare such stereotypes was deemed to be the most effective strategy for balancing internal tensions. One of the panelists who launched a venture, which now counts more than 75 employees, stated that “you would be very surprised what ideas people have in their minds when they think of female leaders. As long as these ideas persist, it doesn’t surprise me at all that we have to constantly defend ourselves and explain to our employees that we are not strange just because we don’t act according to their ideas about how women should behave when they run a company.” (Founder\_14\_w). Overall, the findings suggest that the ascription of women entrepreneurs to be emotionally-conscious and responsive leaders decisively influences them in coordinating the value-added processes, as they need to invest considerable efforts into reconciling the tensions that arise from discrepancies between commonly-held beliefs about women leading new ventures and their actual leadership styles.

#### 4.2.2. Discovery of arbitrage opportunities

**4.2.2.1. Stereotypes (‘Me’): Focus on niche markets.** Similar to the many concerns expressed about the scope of the innovation potential identified by women, the data suggest that women entrepreneurs are often questioned concerning their ability to exploit arbitrage opportunities (13). This topic was prominently discussed in a panel discussion in which a women entrepreneur shared her experiences with being denied access to an accelerator program, “because the program managers were only focusing on a tiny part of my commercialization plan. They wanted me to calculate a best, an average and a worst-case scenario in terms of the market volume I wanted to address. We discussed every detail of my worst-case scenario for more than 45 min, but nothing else.” (Founder\_32\_w). The other panelists were all men who – without having been involved in the selection process of the program – all agreed that the described incident could not have anything to do with gender issues, but with the calculations and prospects of the founder. Interestingly, two of them admitted during the networking part of the event that “you women, you are always so hesitant to share what you have. I’m pretty sure that she dedicated two pages of her business plan to outline the worst-case scenario and only two lines indicating what could potentially go well.” (StartupConsultant\_6\_m). Similar stereotypes became also evident during a conversation with two investors, who admitted that “we evaluate the commercialization scenarios of men and women equally critically. Nevertheless, when it comes to women, you can be sure that they have thought through every single potential problem of accessing and securing markets, which makes it easy to focus on the problems during negotiations.” (Investor\_6\_m). Following a similar mission, the head of a support service agency for startup founders reported that “for months we have been working on a support program for women that helps them to sell their market potential with confidence. In our experience, they are far too hesitant to show convincingly what they can achieve in different markets.” (SupportService\_4\_m).

Nevertheless, the women I talked to were not convinced that they would need such kind of support, but that rather a general change on how their commercialization plans are viewed was needed. To exemplify what they perceive to be crucial in these regards, a team of two women entrepreneurs working on a digital therapy solution stated: “we had a valid proof-of-concept for one particular market. The demand for our offering exceeded all expectations and the options to enter similar markets were more than obvious. However, the investors we talked to only wanted to consider the current market for their valuations, although they usually always want more long-term perspectives.” (Founder\_38\_w).

These reservations in the evaluation of startups run by women entrepreneurs are accompanied by a rather conservative assessment of the scalability of their business models (14). Various women reported that

investors, as well as judges of different competitions, often questioned their chances to acquire a sufficiently large customer base in new markets. Some of the questions they had to answer when pitching their ideas were: “it’s a new market you haven’t entered yet. Are you sure this proof is sufficient to assume this market potential?” (Founder\_6\_w). While this question seems valid to assess the scalability of a business model, the data suggests that similar questions addressed to men had a much more encouraging tone: “I’m not sure about the different markets you just pitched, but I assume that there is potential. How do you proceed to secure sufficient market potential?” (Founder\_5\_m). A comparison in the tone and direction of these questions already indicates that the scalability of business models initiated by women is judged more cautiously. One of the women who launched a health care platform recalled: “we have proven that our business model works not only in the US, but also in Germany, Austria, Poland and Belgium. We are ready to address even more markets, but every time I pitch the idea, I have to justify again the ‘real’ scalability of our platform. I mean, come on, why shouldn’t we also be successful in Switzerland, the Netherlands or Denmark? These markets are very similar to the ones we are already addressing.” (Founder\_10\_w). In search for explanations, one of her current investors states that he has “the feeling that other capital providers are very cautious in their assessment of the scalability prospects. Everything is there, but there is something that is not really tangible and prevents them from believing in the numbers.” (Investor\_7\_m). The previous descriptions in combination with more sample quotes in Table 3 indicate that women entrepreneurs tend to be ascribed to focusing on niche markets.

**4.2.2.2. Behavioral response (‘I’): Formation of strategic alliances.** In contrast to the influence of gender role stereotypes associated with the discovery of innovation potentials, the data indicates that women entrepreneurs are less unsettled by the doubts and concerns ascribed to their abilities to exploit arbitrage opportunities. Instead, they are found to initiate strategic partnerships that would support them in overcoming related challenges arising from the previously outlined stereotypes (15). Especially those with smaller children stated that they systematically approached potential partners as “we have neither the time nor the ambition to attend every possible networking event in the evening and see what happens. We systematically evaluate potential partners, contact them and plan lunchtime meetings to discuss possible collaborations that will help their and our expansion plans.” (Founder\_6\_w). With regards to the initiation of strategic partnerships, a serial entrepreneur recalled that “I was very insecure in the beginning of the first venture. But I then decided to only look forward and identify those people and companies that would support me to make the products attractive for different kinds of markets.” (Founder\_33\_w). In a similar vein, the founder of the health platform for international treatments tried to systematically identify partners by applying strict selection procedures: “I searched for relevant partners and tried to arrange a meeting with the most promising ones. My personal time frame for each meeting was 30 min. If the person would only express doubts and question my plans, I would leave. If the person would proactively make suggestions and work with me on my vision to grow the company, I would stay.” (Founder\_10\_w). The two above-cited women, who had launched a digital therapy platform, adopted a similar approach, emphasizing: “we heard the concerns, we discussed the concerns, we challenged our expansion plans against the concerns, but ultimately, we neglected the critics, who only criticized without ever delivering any value.” (Founder\_38\_w). Similarly, the founders of the online marketplace for secondhand toddler clothing stated that “it’s not that I ignore the feedback, but I try to keep my distance to the people who give no support, only doubts” (Founder\_26\_w).

Instead of investing time and other resources to convince their critics about the strength of their commercialization strategies, women entrepreneurs are found to focus their efforts on the careful search for partners “who either provide access to relevant resources or at least open up their network of professionals that support my plan to enter new markets.”

(Founder\_3\_w) (16). The same idea is reflected in the advice of a successful entrepreneur, who debated the relevance of professional networks on a panel discussion: “don’t waste your time but focus on those partners who have the experience and knowledge to achieve what you want to achieve. Without this kind of partners, I would not be where I am today.” (Founder\_2\_w).

Taken together, the target-oriented formation of strategic alliances appeared to be a frequent response of women entrepreneurs to overcome the challenges related to being stereotypically ascribed to focus on niche markets.

## 5. Discussion

### 5.1. Theoretical and practical contributions

My findings allow to derive several theoretical and practical contributions to the literature that focuses on the implications of gender for the inclusiveness of innovation activities (George et al., 2012; Mortazavi et al., 2021; Nielsen et al., 2018), particularly in entrepreneurship contexts. The paper started by problematizing the limited inclusiveness of entrepreneurial innovation processes, since the profile of those founders exploring and exploiting innovation potentials is still quite homogeneous (George et al., 2012; Schiebinger, 2014; World Economic Forum, 2020), albeit that related activities are still frequently considered meritocratic (Ahl & Marlow, 2012; Dy et al., 2017; Mole & Ram, 2012).

In this respect, I primarily contribute to literature aimed at examining determinants for the limited inclusiveness of innovation activities. To this end, I complement the well-researched ‘system view’, which shows how gender role stereotypes determine the subordinate position of women in the assessment of their innovation performance, with the ‘women’s view’, i.e. how such stereotypes influence their entrepreneurial innovation activities, how they reflect on them and how they react to them. The findings show that women use their agency to actively reflect on and combat existing stereotypes that do not match their self-perception. Their actions, for example in the form of the targeted formation of strategic alliances and the confrontation of third parties with stereotypical images, show that they are not willing to passively accept stereotypical perceptions of “their” gender, which could potentially impair their venture creation process. However, scholars in the field of women’s entrepreneurship have warned against recreating “a binary polarization between groups of individuals based on their sex, [as this would] risk reproducing the subordinate role of women” (Ahl, 2006, p. 597). This study was not designed to compare gender stereotypes associated with men and women, but purposefully focused on the latter to explore how women’s entrepreneurial innovation activities are affected in these regards. Nevertheless, these findings also highlight the obstacles and challenges that particularly women continue to face, and which invite a more critical stance towards the perception of entrepreneurship and innovation as meritocratic and inclusive activities based on gender (Mortazavi et al., 2021).

The second theoretical contribution is to literature on women’s entrepreneurship that aims at overcoming discourses on barely detectable differences between men and women in performing entrepreneurial innovation activities and instead provide alternative explanations for the low proportion of women in leading startup ecosystems (Ahl, 2006; Gatewood et al., 2009; Hughes et al., 2012). To that end, I follow recent calls to focus on gender role stereotypes as an explanatory variable in order to deconstruct how stereotypes that foster the “think entrepreneur, think male paradigm” (Liñán et al., 2021, p. 1053) influence women in executing entrepreneurial innovation activities (Alsos et al., 2013; Dy et al., 2017; Marlow et al., 2019; Marlow & McAdam, 2012). Research contributing to the ‘system view’ has provided ample evidence that institutionalized beliefs about entrepreneurial activities reflect a masculine norm of who and what constitutes an entrepreneur, which hinders particularly women to identify with and thrive in the role of a

startup founder (Ahl & Marlow, 2019; Ahl & Nelson, 2015; Klyver et al., 2013; Verheul et al., 2005).

The findings of this study allow to extend these theoretical advances by deconstructing what kind of stereotypes exist in relation to the exploration and exploitation of innovation potential by women entrepreneurs and how these stereotypes influence them in this regard. In particular, the data suggests that women tend to be ascribed to exploring innovation potentials of limited scope, to dealing with innovation processes in a risk-conscious manner, and to exploiting once identified innovation potentials in niche markets, while applying emotionally-conscious leadership approaches. Deconstructing such gendered ascriptions debunks the myth that supposed differences between men and women in performing entrepreneurial innovation activities are due to their biological sex, but rather to gender role stereotypes shared by actors and institutions relevant to their venture creation process. This shift in perspective also carries important implications for interventions by policy makers and leaders who aim for greater inclusivity in leading startup ecosystems. Instead of ‘fixing the women’ through different support programs explicitly targeted at (nascent) women entrepreneurs – many of which have already proven to be ineffective (Ahl & Marlow, 2012; Hirschfeld et al., 2020; Marlow et al., 2008) – it rather requires measures that allow ‘to fix the system’ by highlighting the existence of gender role stereotypes and their implications for how women’s innovation activities are viewed by third parties.

The third theoretical contribution of this study lies in the development of theory on the still little understood phenomenon of gender role stereotypes for the performance of innovation activities by women in entrepreneurship contexts (Alsos et al., 2013; Foss & Henry, 2016; Marlow et al., 2019). By drawing on symbolic interactionism (Blumer, 1969; Mead, 1934), I theoretically link the previously outlined stereotypes associated with women entrepreneurs’ (their social self) performance of entrepreneurial activities, specifically those related to the exploration and exploitation of innovation potentials (responses to the social self). To this end, the data indicates that women actively reflect on their experiences in social interactions and are hence well aware of stereotypes associated with *their* gender held by actors and institutions in the sphere of venture creation, including investors, policy representatives, and startup support services, amongst others. These experiences and their own awareness have several implications for their execution of entrepreneurial innovation activities.

In response to these stereotypes, women need to constantly (re)build their inner and external legitimacy to continue their venture creation processes, convince dominant actors to support their aspirations, and balance the tensions between their expected and actual leadership style. Additionally, the women entrepreneurs I met during the field study reported that they often actively confront external parties with these stereotypical images. At the same time, the data also indicates that women are actively refraining from engaging with partners that assume them to focus only on niche markets. Instead, they are found to establish strategic alliances that support them in commercialization and expansion plans that are commensurate with their aspirations. These explorative findings allow the initiation of theory development of “*how gender per se influences and affects entrepreneurial behavior*” (Marlow et al., 2019, p. 56). It is important to note, however, that these findings are unlikely to be limited only to entrepreneurship contexts. Innovation scholars should therefore focus on the long-neglected relevance of demographic characteristics of those actors creating innovation in order to determine the influence of gender role stereotypes across various innovation contexts (Crossan & Apaydin, 2010; Fagerberg, 2009).

## 5.2. Limitations and future research

Several limitations of the present study open up various avenues for future research to foster theory development with regard to which and how gender role stereotypes influence the inclusivity of the startup journey for a diversity of people. First, the empirical data for this study

has been generated in close interaction with numerous actors and institutions relevant to a particular startup ecosystem. Such an ethnographic approach to data collection necessitates a reflection on the researcher’s positionality, including their macro-sociological, local, and interactional identity categories (Lønsmann, 2016). As a (*anonymized for review*) who was not born and raised in Berlin, I align with the general demographics of the startup ecosystem. However, my role as a researcher, coupled with the fact that I have not yet launched my own startup, may lead some actors to view me as an outsider. To minimize my impact, I deliberately avoided roles such as speaker or panelist and refrained from guiding discussions during the events I attended, focusing instead on observing and listening. Despite these efforts, my identities certainly influenced how openly ecosystem actors shared their opinions and perspectives. While I included actors with diverse identity categories in the data analysis, a future ethnographic study involving researchers with varying positionalities could expand the range of perspectives, as informants may be more likely to share sensitive information, such as personal opinions on stereotypes, with individuals they view as “insiders.”

Second, not all women experienced the identified stereotypes and related implications on their innovation activities to the same extent. Based on the data I collected, I was unable to identify specific determinants, such as industry or venture type, which might account for a variation in the extent of prevailing gender role stereotypes in certain circles within the startup ecosystem. Future research is needed to examine boundary conditions that would allow to explain variations in the degree gender role stereotypes are experienced by women entrepreneurs and those beyond the gender binary.

Third the data has been collected within the startup ecosystem in Berlin, where highly specific contextual conditions prevail. These conditions limit the generalizability of the explicit gendered role stereotypes and their implications on entrepreneurial innovation activities as determined in this study. Future comparative studies across leading startup ecosystems worldwide are needed to examine how such stereotypes differ depending on variations in the cultural, social, and material attributes that constitute a startup ecosystem (Spigel, 2017). Fourth, the results of this study have been generated in an entrepreneurial context, for which the exploration and exploitation of innovation potentials are considered essential activities (Shane & Venkataraman, 2000). Although previous research suggests that gender stereotypes also prevail in other innovation contexts (Frietsch et al., 2009), more research is needed to determine the transferability of my findings to other contexts. In particular, it needs to be taken into consideration that the lack of well-defined governance structures in the startup domain is likely to entail lower impediments to the dissemination of gender role stereotypes, whereas large and established organizations might be able to tackle related challenges more effectively.

## 6. Conclusion

The limited inclusiveness of entrepreneurial innovation activities can be attributed to prevailing gender role stereotypes that propagate a masculine ideal of those who explore and exploit innovation potential. This study aims to complement the literature that focuses on social structures and systematic biases that promote such stereotypes and thus contribute to a gender hierarchy in the entrepreneurial profession with the perspective of those who are objectified by these stereotypes, i.e. women who are considered less suited to perform entrepreneurial innovation activities. During an ethnographic field study spanning four years, I closely observed how women actively reflect on the discrediting of their innovation performance due to their gender and use their agency to counter their subordinate position. The data clearly shows that they can hardly identify with the prevailing stereotypes of their innovation activities as being emotional, risk-averse and focused on limited scalable innovation potential in niche markets. The discrepancy between the socially ascribed and self-perceived innovation performance leads to



dynamics between women entrepreneurs, who attempt to handle and challenge the prevailing stereotypes, and the various actors in the ecosystem who support and accompany their entrepreneurial innovation activities. These findings contribute to a women's perspective on the (limited) inclusiveness of innovation activities by deconstructing how prevailing gender role stereotypes influence them in exploring and exploiting innovation potentials, highlighting their attempts to overcome related challenges in accessing and securing relevant resources, and showing their approaches to combat the prevailing narrative that puts their innovation activities in a less favorable position.

#### CRedit authorship contribution statement

**Janina Sundermeier:** Writing – review & editing, Writing – original draft, Visualization, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

#### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

#### Data availability

Data will be made available on request.

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**Janina Sundermeier** is Assistant Professor for Digital Entrepreneurship and Diversity at the Department of Information Systems at the Freie Universität Berlin. Her research focuses on distinct facets of entrepreneurial diversity and their implications for new venture creation processes in a digital age. Her work has been published in leading international journals, including the *Journal of Management Studies*, *European Journal of Information Systems*, *European Management Journal*, *Electronic Markets*, and *Communications of the Association of Information Systems*. To transfer her findings to education and practice, she initiated various seminars and conferences, such as *WoMenventures* and the *Hello Diversity!* Conference including a Podcast of the same name. Janina is also founder of the *Digital Entrepreneurship Hub* as well as the *Hello Diversity!* Studio, and associate member of the *Einstein Center Digital Future*.