

Editorial
“Catalyzing Change: Innovation in Women’s Entrepreneurship”
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Abstract

Research Summary

Entrepreneurship and innovation are social and relational processes that occur in diverse contexts involving multiple stakeholders. Recently, research in entrepreneurship has begun to explore entrepreneurial processes through the lens of gender. However, unlike its entrepreneurship counterpart, innovation research has paid limited attention to gender dynamics. Indeed, the majority of studies on innovation focus on products, processes or organizations, with the individual often not ‘seen’. This special issue recognizes the intertwined nature of gender, innovation, and entrepreneurship, and in doing so, presents five articles that develop new theory and provide new empirical evidence on the topic of innovation in women’s entrepreneurship. Collectively, they offer new perspectives and open new avenues for future work. In structuring this editorial, we present an overview of the state of the field, provide a multilevel future research agenda, and introduce the articles that comprise this special issue.

Managerial Summary

Despite the importance of entrepreneurship and innovation for economies and societies world-wide, innovation and gender are rarely explored together. Indeed, limited attention has been placed on the gendered nature of the relations among innovators, entrepreneurs, and processes. This special issue includes five articles which address this gap from multiple perspectives. The editorial describes the state of the field prior to the special issue, introduces the special issue articles, and identifies a multilevel perspective suggesting avenues for further investigation.

Keywords: Innovation; women’s entrepreneurship; gender; future research agenda

Introduction

Innovation is an important engine of economic development and a driver of social progress, recovery, and sustainability (Eriksson, 2014; Garcia & Calantone, 2002). Academic research on the role of innovation in economic and social change has expanded rapidly since the 1960s (Fagerberg, Mowery, & Nelson, 2005; Eriksson, 2014). Despite this, most innovation research focuses on *where* innovation takes place as opposed to *who* takes part in it. This lack of focus on people in the innovation process ensures that the gender perspectives and other personal characteristics of the scientists, technologists, and innovators remains invisible (Etzkowitz & Kemelgor, 2001). As a result, we have limited understanding of the gender dimension in innovation and how a feminine perspective may contribute to innovation research (Pecis & Berglund, 2021).

In contrast, there has been much progress in examining women's entrepreneurship (Jennings & Brush, 2013; Peake & Eddleston, 2021; Strawser, Hechavarria & Passerini, 2021), including research that explores the gendered nature of entrepreneurial ecosystems (Brush, Edelman, Manolova, & Welter, 2019; McAdam, Harrison & Leitch, 2019), gender differences in entrepreneurs' motivations and success (Eddleston & Powell, 2008; Manolova, Brush, Edelman & Shaver, 2012; Marlow & McAdam, 2013) and gendered challenges to business growth (Brush, Greene, Balachandra & Davis, 2018; Edelman, Donnelly, Manolova & Brush, 2018; Ladge, Eddleston & Sugiyama, 2019). However, this work does not put innovation by women entrepreneurs or their innovative ventures at the core of its inquiry. For instance, there is a paucity of research examining how innovation inspires women to start businesses, how women entrepreneurs respond to new innovations by competitors, and how they start and scale innovations in the marketplace. As such, gender analyses of innovation, explored through multiple theoretical lenses and using a variety of empirical methods, are missing in the entrepreneurship field. These omissions are surprising given an emerging stream of research that documents the divergent paths men and women take toward the commercialization of technology (Ding & Choi, 2011), or toward identity creation in technology business incubation (Marlow & McAdam, 2015). Existing literature has also emphasized the unique perspectives that women on R&D teams, top management teams, and boards of directors contribute to their firms' innovation performance, but these studies are frequently situated in larger well-resourced companies rather than an entrepreneurial context (Diaz-Garcia, Gonzalez-Moreno, & Saez-Martinez, 2013; Foss, Lee, Murtino & Scalera, 2021; Kim & Starks, 2016; Nair, 2020; Ruiz-Jiménez, del Mar Fuentes-Fuentes, & Ruiz-Arroyo, 2016; Torchia, Calabro, & Huse, 2011).

Aim of Editorial

Our aim in this editorial, therefore, is to highlight the role of gender and innovation in women's entrepreneurship by building upon the more extensive gender debates in the entrepreneurship and innovation disciplines. In so doing, we review the common conceptualizations of innovation, which brings to light the assumption of masculinity in the entrepreneurship and innovation domains. As this extant body of evidence has developed, greater focus has been afforded to how gender shapes our understanding of innovative and entrepreneurial activity, particularly with respect to the embedded masculinity of the normative model of entrepreneurship (Ahl, 2004, 2006).

Based on this reflection we propose a multi-level approach for considering gendered analysis of innovation in women's entrepreneurship. We then introduce the five articles included in this special issue, highlighting how these catalyze further research on innovation in women's entrepreneurship.

Innovation Defined

Following Schumpeter's seminal work in 1934, researchers have recognized the importance of innovation to organizations' survival (Wiklund & Shepherd, 2005), competitive advantage (D'Aveni, Dagnino, & Smith, 2010; Utterback and Abernathy, 1975), corporate renewal (Bessant, Lamming, Noke, & Phillips, 2005), and financial performance (Brown & Eisenhardt, 1995; Garcia & Calantone, 2002). Innovation is the process through which new products, services, processes, and business models are introduced (Drucker, 1985). Innovation can take many forms, depending on the organization's resources, capabilities, strategies, and requirements. Common types of innovation include research and development (R&D), technological advancement, patents, new product development, novel manufacturing processes, new organizational forms, advances in marketing, and organizational restructuring (Diaz-Moriana, Clinton, Kammerlander, Lumpkin, & Craig, 2020; Ettlé & Reza, 1992). There is no single agreed-upon definition or measure of innovation (Baregheh, Rowley & Sambrook, 2009), but for the purposes of this editorial, we define innovation as "the implementation of a new or significantly improved product (good or service), process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations" (OECD, 2005: 46). Such a perspective recognizes both the innovation *generating* and innovation *adopting* aspects in diverse types of organizational configurations (Damanpour & Wischnevsky, 2006), and acknowledges that these are inherently social processes (Colombo, von Krogh, Rossi-Lamastra & Stephen, 2017).

Embedded Masculinity of Innovation

The ethos of innovation, science, and technology is embedded within masculine stereotypes, whereby masculine discourse pervades much of the innovation literature (Wajcman, 2004; Walby, Gottfried, Gottshall, & Osawa, 2009). Further, there is a traditional masculine preoccupation including transformation of concepts to objects of control or conquest, competition, linear rationality, domination, and self-sufficiency, rather than approaches more often considered feminine such as collaboration, sharing, and trust (Wikham & Knights, 2013). The predominant image of innovation and innovators builds on stereotypical notions of gender, promoting men and certain forms of masculinity as the norm (Andersson, Berglund, Gunnarsson, & Sundin, 2012). Innovation is depicted as a tournament, with innovators described in stereotypical masculine terms like risk-taking, rebellious, trailblazing, and ambitious. Additionally, the most celebrated inventors and role models of innovation are male, such as Elon Musk, Steve Jobs, Gottlieb Daimler, Karl Benz, Nikola Tesla or Henry Ford.

These stereotypes parallel those of successful entrepreneurs, who are also described as aggressive, independent, risk-taking, opportunistic, profit seeking, and competitive (Gupta, Turban, Wasti & Sikdar, 2009; Bird & Brush, 2002). The history of entrepreneurship is anchored in a tradition of male-derived emphasis on activities associated with exploitation of opportunities to achieve profit maximization, where Jeff Bezos and Mark Zuckerberg are frequently mentioned as role models. For instance, in a pitch situation, gendered elements in communication can trigger indirect bias where a male entrepreneur with a high-tech innovation is perceived as more

competent and likely to be more successful than a female entrepreneur (Balachandra, Briggs, Eddleston & Brush, 2019; Kolev, Fuentes-Medel, & Murray, 2019).

Because the research in innovation tends to focus on the associated risks in pursuit of a competitive advantage, studies typically explore firm performance outcomes and achievements rather than the innovators who are engaging in the process, their gender or personal characteristics (Etzkowitz & Kemelgor, 2001). Research centers on the creation of new products, processes and systems (Ranga & Etzkowitz, 2010; Alsos Ljunggren, & Hytti, 2013), often making the individual innovator invisible and thus, women's role in innovation is rarely recognized or discussed in the literature (Alsos et al., 2013; Poutanen & Kovalainen, 2013; Alsos, Hytti & Ljunggren, 2016; Pecis, 2016). Consequently, research on gender and innovation is still scarce in the entrepreneurial context (Ljunggren, Alsos, Amble, Ervik, Kvidal, & Wiik, 2010; Eriksson, 2014). In fact, innovation is an area that traditionally has been characterized "either by gender-blindness or male-dominance" (Ranga & Etzkowitz, 2010: 1). On one hand, much of the literature takes a gender-neutral approach to innovation (Pecis, 2016), with little attention paid to gender issues (Alsos, et al., 2016)). On the other hand, studies on innovation often center on high-tech industries, a context that is typically male-dominated and embodying a masculine perspective (Marlow & McAdam, 2013; McAdam, 2013; Foss & Henry, 2016). To shine a light on the innovations of women entrepreneurs, a gendered perspective is therefore necessary in the innovation literature. There is a need to focus not just on gender and the individual level, but also on the ventures women create and how gender plays out in innovation processes, as well as the role of gender in innovation outcomes for the firm and society.

The Role of Gender Dynamics in Shaping Innovation in Entrepreneurial Contexts.

Despite the close relationship between entrepreneurship and innovation, the two literatures' study of gender has been very different. Because entrepreneurship research often focuses on *who* is starting, leading, and growing new ventures, it has recognized how gender shapes entrepreneurial activity, particularly in respect to the embedded masculinity of the normative model of entrepreneurship (Eddleston & Powell, 2008; Jennings & Brush, 2013; McAdam, 2013; Powell & Eddleston, 2013). Further, the entrepreneurship literature has advanced firm level studies, for instance, investigating the performance and strategies of male and female-led ventures, how women entrepreneurs acquire financing, and more recently, macro-level studies that examine the ecosystems and contexts that influence women's entrepreneurship (Jennings & Brush, 2013; Kanze, Huang & Conley, 2018; Sperber & Linder, 2018; Brush et al., 2018; Henry, Foss, & Ahl, 2016). However, the increasing acknowledgment of gender differences in entrepreneurial activity (Gatewood, Carter, Brush, Greene, & Hart, 2003; Henry et al., 2016; Kim, Lee & Yeo, 2021) has not been reflected in the innovation domain. Thus, to achieve a better understanding of innovation by women entrepreneurs and to move the field forward, it is important to acknowledge the evolution of both gender-based entrepreneurship research (Ahl, 2006; Jennings & Brush, 2013; Peake & Eddleston, 2021; Strawser et al., 2021), and innovation research in general (Alsos et al., 2013; Poutanen & Kovalainen, 2013; Pecis, 2016; Pecis & Berglund, 2021).

Processes, organizations, and systems consist of actors (Thorslund & Göransson, 2006) and focusing on these actors provides a pathway to explore the gender dimension in innovation. Gendered norms, attitudes, and values shape and inform female entrepreneurs' innovative behavior with respect to their motivation, innovation processes, and innovation outcomes (Pecis

& Berglund, 2021). Gender analyses have the “potential to enhance human knowledge and technical systems by opening them to new perspectives, new questions and new missions” (Schiebinger 2008: 4). The adoption of a gendered lens addresses a clear gap in the literature of women-focused innovation theories and allows innovation scholars to address wider issues concerning diversity, the generalizability of their findings, and the inclusivity of the theories they develop.

Developing a Multi-Level Future Research Agenda

We propose a multilevel research agenda for considering gender in innovation, at three levels of analysis, macro, meso, and micro levels. By taking a multilevel approach, women are placed front and center in innovation research while also acknowledging the importance of social relations and external environments in understanding their experiences and innovation outcomes. This agenda is informed by wider contemporary discussions and by our special issue contributions. Such an approach opens pathways to develop new research applying a gendered lens to innovation, incorporating new frameworks and perspectives at multiple levels.

The five papers in this special issue speak to the evolving multidisciplinary and contextual nature of women’s entrepreneurship research (Welter, Baker, & Wirsching, 2019). Yet, there are still important gaps in knowledge about women entrepreneurs as innovators that point to important future research areas. At the macro level, we build on existing literature by highlighting the importance of the external environment as a foundation for theoretically advancing innovation in the domain of women’s entrepreneurship research (Alsos et al., 2013). At the meso level, we consider the role of social networks, organizational configurations, and intermediaries on innovation generation and adoption. Finally, at the micro level, we build on current research on gender as a process; something someone ‘does’ and that is affected by gendered expectations for oneself as well as expectations of others (Eddleston & Powell, 2008; Bowles & Flynn, 2010; Bruni, Gherardi & Poggia, 2004; Rocha & Van Praag, 2020), to identify a number of issues which extend contemporary research on women entrepreneurs and innovation.

Macro Level Analyses

Entrepreneurship research increasingly emphasizes the role that the external environment and context play in influencing the nature, type, and extent of entrepreneurial activity (McCann and Oxley 2012; Welter 2011; Welter et al., 2019). Contextual effects span across the socio-economic environment reflecting culture, institutional norms, time, space, and regulations (Whetten, 1989). Indeed, recent research suggests that a country’s environmental conditions influence women’s contributions to innovation (Audretsch, Belitski & Brush, 2022; Foss et al., 2021; Owalla, Nyanzu & Vorley, 2021). Therefore, in developing a research agenda for innovation in women’s entrepreneurship, greater attention needs to be devoted to studying gendered spaces and places, and how external environments related to cultural and economic development support or sabotage women in innovation. Further, research needs to consider how innovative women entrepreneurs influence, change, and shape the macro environment. In other words, we need more information on the ways in which women and their businesses catalyze change and innovation in the society, industry, and environment.

Meso Level Analyses

The rationale for meso level extensions is rooted in the portrayal of innovation and entrepreneurship as socially embedded phenomena (Davidsson and Honing, 2003; Rocha &

Praag, 2020; Steyaert and Katz, 2004; McKeever, Jack & Anderson, 2015). Entrepreneurship research has acknowledged the importance of incubators and accelerators (Marlow & McAdam, 2015; Maxheimer & Nicholls-Nixon, 2021; Neumeyer, 2020), role models (Austin & Nauta, 2016; BarNir, Watson & Hutchins, 2011; Byrne, Fattoum & Garcia, 2019; Rocha & Van Praag, 2020), and networking (Manolova, Carter, Manev & Gyoshev, 2007; Ozkazanc-Pan & Clark Muntean, 2018; Uzuegbunam & Uzuegbunam, 2018) to women entrepreneurs' success. Similarly, innovation studies need to explore how social interactions and relationships influence women entrepreneurs' innovation activity.

Micro Level Analyses

The focus on micro level phenomena is growing within the entrepreneurship literature and other fields (Cunningham, Dolan, Menter, O'Kane, & O'Reilly, 2020).). While entrepreneurship is recognized as a gendered phenomenon (Eddleston & Powell, 2008; Jennings & Brush, 2013; Peake & Eddleston, 2021; Powell & Eddleston, 2013; Marlow & McAdam, 2015), innovation research has yet to acknowledge the “complexities of the movements and interactions between femininities and masculinities” within the innovation domain (Pecis, 2016, p.27). By approaching innovation from a feminist perspective, ‘innovation blind spots’ can be identified and overcome (Pecis & Berglund, 2021), and the diversity of women entrepreneurs' experiences with innovation can be discovered. Furthermore, while intersectionality is increasingly recognized in women's entrepreneurship research, we still know relatively little about how the markers of differences such as ethnicity, religion, education, and socioeconomic status, intersect with gender and biological sex¹ to limit women's engagement with innovation (Essers and Benschop 2009; Pecis & Berglund, 2021).

Summary and Overview of the Papers

When we first proposed this special issue to the *Strategic Entrepreneurship Journal*, we were motivated to identify common themes across the entrepreneurship and innovation literatures, in order to bring together state-of-the art works that advance our understanding of innovation in women's entrepreneurship, and to highlight promising avenues for future scholarship. We were pleased to be awarded the opportunity to serve as guest editors, and delighted when, in 2020, other scholars responded to our call. We considered 61 manuscripts for possible publication in this special issue and, after extensive review cycles, narrowed the pool to the five articles in the issue. We hope that this special issue sheds new light on the distinctive features of innovation in women's entrepreneurship and that it provides strong theoretical and empirical foundations on which future scholarship can be grounded.

In reflecting on the articles in this special issue, the importance of various levels of analysis, namely the macro, meso and micro levels emerged. We illustrate how the articles relate to and span these levels of analysis in Table 1. In so doing, we develop an argument for expanding the scope of innovation in women's entrepreneurship. The papers in the special issue showcase various methods and empirical contexts for innovation in women's entrepreneurship and they highlight several themes from all three macro, meso, and micro levels. One article focuses on a macro theme (Belz, Graddy-Reed, Hanewicz & Terrile, two address meso themes

¹ While male and female generally refer to biological sex, gender refers to the psycho-social ramifications associated with each (Unger, 1979), often portrayed through gender stereotypes, identification, and roles (Eagly & Sczesny, 2009; Eddleston & Powell, 2008).

(Madison, Moore, Daspit & Nabisaalu and Bauweraerts, Rondi, Rovelli, De Massis & Sciascia) and two address micro themes (McGrath, Chen, & Nerkar and Seigner, Milanov & McKenney). The articles in this special issue represent the frontiers of empirical research on innovation in women's entrepreneurship. These studies are quantitative (with one supplemented by qualitative interviews), use large-scale longitudinal data sets built by combining multiple sources at firm and individual levels, and make use of sophisticated econometric techniques to identify causal relationships. Additionally, the papers contribute to broader theoretical and empirical bodies of research such as SMEs, family business, patents and crowdfunding.

At the macro level, **Belz, Graddy-Reed, Hanewicz and Terrile** examine applicants to the National Aeronautics and Space Administration Small Business Innovation Research (NASA SBIR) program. Despite a mission objective to fund more women, the NASA SBIR program lags in female representation. Econometric analysis reveals a consistent and strong bias against female principal investigator (PI) applicants in the review process. Specifically, Belz et al. reveal that females receive significantly lower technical scores than comparable males. They also find that the PI's prior experience with the program, but not the organization's successful track record, helps reduce some of the bias against women. Grounded in status characteristics theory, this paper contributes to our understanding of how reliance on attributes, such as gender, biases the peer review process even in environments with an explicit mission of expanding gender equity. Interestingly, the paper also demonstrates a corrective redistribution at the award stage to reverse the bias and create equity in the funding outcome.

At the meso level, Madison, Moore, Daspit and Nabisaalu, and Bauweraerts, Rondi, Rovelli, De Massis and Sciascia explore innovativeness in relation to specific organizational configurations. The study by **Madison, Moore, Daspit, and Nabisaalu** explores the socially embedded nature of innovation in emerging markets. These authors argue that because institutional factors in emerging markets tend to constrain rather than empower women, women entrepreneurs are pushed to involve more women in their SMEs as a way to enhance their innovativeness. Building from transactive memory theory, they develop and test a framework that considers gendered effects in SME ownership, workforce composition, and communication. Madison et al. argue that as women's representation increases in an SME, their innovation-related capabilities, including their information processing abilities and relational communication skills, are activated and leveraged for innovation. This paper contributes to our understanding of gender and innovation by demonstrating how the gendered characteristics of SMEs contribute to their level of innovation. Findings reveal that women are catalysts of innovation: different configurations of women in ownership and in the workforce contribute to SME innovation in emerging markets. As such, this study offers novel theoretical insights into the social structure and social process through which women enhance innovation in resource-scarce and socially restrictive contexts.

Drawing on upper echelons theory, **Bauweraerts, Rondi, Rovelli, De Massis, and Sciascia** examine directors' gender in conjunction with family affiliation to investigate the role of family female directors in family-owned SMEs' innovation initiatives. These authors argue that female directors affiliated with the owning family can leverage the power of this affiliation, giving them significant influence in board decision making. In turn, family female directors' greater voice is expected to foster collaboration, diversity of perspectives, and creativity, thereby increasing the SME's investment in innovation. Indeed, Bauweraerts et al.'s findings reveal that family female directors have a positive effect on the R&D intensity of family SMEs. However, this relationship depends on the contingency effects associated with the business-owning

family's noneconomic goals (i.e., socioemotional wealth dimensions). For example, while the identification of family members with the firm and their desire to renew the family bonds through dynastic succession strengthened the positive effect of family female directors, the intention of the family to retain control over the business weakened their effect on innovation investments. This paper adds to our understanding of how women contribute to innovation by illustrating the important role they can play in family-owned SMEs. Because such firms often struggle to remain innovative as they transfer from one generation to the next, this study stresses the importance of gender in studying the dynamics of family firms and their innovativeness.

At the micro level **McGrath, Chen and Nerkar** and **Seigner, Milanov and McKenney** explore gender gaps and gender stereotypes. In particular, **McGrath et al.** investigate whether there is a gender gap in the sale of patents by entrepreneurs and then go on to examine whether the personal wealth of female entrepreneurs can compensate for it. They find compelling evidence of a gender gap in patent sales. While greater wealth of female entrepreneurs improves their likelihood of patent sales, increasing wealth simultaneously expands the gender gap, making female entrepreneurs increasingly worse off compared to male entrepreneurs, except at high affluence. These results underscore the complexity of the challenges facing female entrepreneurs when seeking to develop a business using patent sales. This paper expands our understanding of the gender challenges faced by women in the preliminary stages of venture commercialization.

Seigner, Milanov and McKenney examine the role of gender stereotypes on pitching innovativeness in crowdfunding. Drawing from Expectancy Violations Theory and using data from 2,185 Kickstarter campaigns, they examine the direct and moderating role of personal and contextual factors that trigger gender-stereotypic beliefs. Seigner, Milanov and McKenney find that male entrepreneurs drive the adverse effects of innovativeness claims on crowdfunding performance, whereas women can profit from pitching innovativeness in female-typed crowdfunding categories. While these results imply that women can benefit from gender-stereotyping in crowdfunding, this advantage is still bound by contextual factors. This paper contributes to our understanding of how the sex of the entrepreneur in conjunction with the gender type of the crowdfunding category impact how language effects are influenced and interpreted by stereotypical expectations of the entrepreneur.

Table 1: Summary of Papers

Title	Author	Focus	Level	Method and Setting
Gender Differences in Peer Review of Innovation	Belz et al.	Women's participation in National Aeronautics and Space Administration Small Business Innovation Research program	Macro	Quantitative United States
The Influence of Women on SME Innovation in Emerging Markets	Madison et al.	Women entrepreneurs and SME innovation in emerging markets	Meso	Quantitative Eastern Europe, Central Asia

				and the Middle East, and North Africa
Are family female directors catalysts of innovation in family SMEs?	Bauweraerts et al.	The role of female directors as catalysts of innovation in family-owned SMEs	Meso	Quantitative Belgium
Pipes, Prisms and Patent Sales: How Personal Wealth Expands and Contracts the Gender Gap in Entrepreneurship	McGrath et al.	Gender gap in the sale of patents	Micro	Quantitative supplemented with qualitative interviews United States
Who can claim innovativeness and benefit from it? A Gender stereotypes perspective on rewards-based crowdfunding	Seigner, et al.	The role of gender stereotypes in pitching innovativeness in crowdfunding	Micro	Quantitative United States

Future Research: Questions and Agenda

While the papers in this special issue provide a basis for understanding gendered dynamics in innovation research, more work is needed to unearth the nuanced experiences of women innovators and entrepreneurs. Considering the macro level, the Belz et al., paper suggests expanded research on topics such as institutional or cultural factors that enable or inhibit women entrepreneurs to pursue careers in the sciences and, subsequently launch ventures that are rooted in innovative fields and sciences. The Madison et al. and Bauweraerts et al. focus on meso environments such as the family and market context demonstrating gendered processes influence innovation and outcomes, which suggests new directions for meso-level research. Finally, Following McGrath et al., and Seigner, et al., innovativeness is found to be gendered in a way that affects business fundraising and personal wealth accumulation, highlighting the need to explore micro level factors in innovation. This additional work can employ traditional as well as novel methodologies, with the intent to advance knowledge and have policy and practice-based implications. Below, we provide some illustrative research questions at each level of analysis, in continuation of the themes highlighted in the five papers in this special issue.

Table 2 A Multi-Level Future Research Agenda

Level	Description	Illustrative Research Questions
Macro	The macro level refers to the broader contextual and institutional factors within an ecosystem that act as enablers	<ul style="list-style-type: none"> • How does the socialization of females versus males (i.e. early education experiences) affect their engagement with innovation? • What institutional and environmental factors hinder or

	or inhibitors of women entrepreneurs' innovation activities.	<p>facilitate women's pathways to entrepreneurship and innovation?</p> <ul style="list-style-type: none"> • How do targeted policies and programs for STEM stimulate the development of innovation- and technology-based women-led businesses? • How are women entrepreneurs and their ventures catalyzing change and implementing innovations in society, industry and the environment?
Meso	The meso level refers to the pattern of social ties and configurations in communities and organizations that affect women entrepreneurs' innovation activity.	<ul style="list-style-type: none"> • How do universities support male versus female academics' innovations and new ventures (e.g. spinouts, patents and licensing)? • What is the experience of innovative women entrepreneurs in accelerators and incubators? • What is the role of gender in leading innovation processes and practices in different types of businesses including family businesses and social enterprises? • How do women catalyze change and innovation in entrepreneurship settings, including new ventures, SMEs, and family businesses?
Micro	The micro level refers to the intersectionality of individual characteristics and socio-demographic categories that reflect the heterogeneity among women entrepreneurs and their innovations.	<ul style="list-style-type: none"> • Taking an intersectional perspective, how do individual differences related to gender identity, race, ethnicity, sexual orientation, and marital/parental status inform the innovative capacity of entrepreneurial women? • How does the work-life balance of men versus women entrepreneurs affect their innovative capacity and activities? • How do women innovators' and entrepreneurs' values, motivations, and perceptions change as they go through different life stages? • How is innovative capacity constructed, embodied, and resisted within the entrepreneurial space for women?

Conclusion

This special issue provides insight into catalyzing innovation in women's entrepreneurship and in so doing, exposes gender dynamics across three levels of analysis (macro, meso, and micro levels). The papers in the special issue showcase various methodological approaches and highlight new empirical areas (e.g., crowdfunding; patents) of key relevance to innovation in women's entrepreneurship. They also open new avenues for research questions and methods, paving the way for future scholarship. Within this editorial, we distill the current state of knowledge and offer a roadmap for future scholarship. Our special issue sheds light on the complex, multilevel factors affecting women's involvement in innovation. Taken together, the articles reveal how gender processes can work independently and in tandem to support, or constrain, the innovation of women entrepreneurs. We hope our reflections and multilevel agenda for future research ignite exciting conversations and spur more research on innovation in women's entrepreneurship.

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