MASTER THESIS

TOWARDS A MORE INCLUSIVE

UNIVERSITY-BASED

ENTREPRENEURIAL ECOSYSTEM

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF
Master of Business Administration
Entrepreneurship, Innovation and Strategy

BY
Maria Wittich

University of Twente
Faculty of Behavioral, Management and Social Sciences

EXAMINATION COMMITTEE
Dr. M. A. von Raesfeld
Prof. Dr. Ir. P. C. de Weerd-Neederhof

AUGUST 2020

UNIVERSITY OF TWENTE.

Abstract

The main objective of this thesis is to investigate the main obstacles that potential and aspiring female entrepreneurs face within the entrepreneurial ecosystem, and which conditions of the university-based entrepreneurial ecosystems can either stimulate or hinder female entrepreneurial activity. In order to analyse the entrepreneurial ecosystem this study deploys a multidimensional framework focusing on three main entrepreneurial processes within the entrepreneurial ecosystem (1) access to resources (2) opportunity recognition and (3) legitimacy. In order to capture the specific circumstances of female entrepreneurs, this thesis recognizes gender as an underlying social structure which responds to current calls to embed feminist analyses within the entrepreneurial field. Since entrepreneurial ecosystems can produce underlying gendered practices on institutional, organizational and individual levels this thesis investigates if gender might influence the choice of female students to become an entrepreneur. Due to the exploratory nature, this study makes use of semi-structured interviews to get a deeper understanding of potential female entrepreneurs' experiences and needs within the entrepreneurial ecosystem. Results suggest that employment experiences, family and friends, their cultural background and their motivation play a vital role in deciding whether to become an entrepreneur or not. Besides that this study showed that gender does have an influence on the legitimation process necessary for start-up activity.

Keywords: entrepreneurial ecosystem, female entrepreneurship, gender

Content

Introduction

European institutions, such as academic, educational and governmental, seek for a modern, dynamic, outward looking knowledge economy (European Commission, 2008). Entrepreneurship is seen as the economic wealth driver and catalysator of country development, since it fosters innovation through the exploitation of knowledge (Elam et al., 2019). This notion is in line with the Schumpeterian definition of entrepreneurship, where the entrepreneurial process involves risk-taking behaviour, creating new to the customer goods and services, which are explored, evaluated, and exploited, and leading to innovative and high-growth entrepreneurship (Schumpeter, 1934). In contrast there is an emerging concept of entrepreneurship ecosystems within recent entrepreneurship literature, whereas the nature of an ecosystem is that it is organic, dynamic and self-regulating while actors and institutions are interdependent and influenced by each other (Spigel, 2017). Therefore there is a shift of interest from entrepreneurs seen as economic superheroes to entrepreneurship seen as a process embedded in a particular social and local context (Cavallo, Ghezzi, & Balocco, 2019). This is in line with the notion of C. Brush, Edelman, Manolova, & Welter (2019) who state that "new firms emerge and grow not only because talented and visionary individuals (entrepreneurs) created them and develop them but also because they are located in an environment or 'ecosystem' made of private and public players, which foster and sustain them, making the actions of entrepreneurs easier" (2019, p. 395). Student entrepreneurship represents one of the most important components of entrepreneurship, since especially universities focus on creating new inventions and knowledge and serve as an important output of knowledge and innovation, which can be exploited by new ventures created by students

(Jansen, van de Zande, Brinkkemper, Stam, & Varma, 2015). Accordingly, universities play a vital role within entrepreneurial ecosystems also due to their continuous interaction and collaboration with different industries and government in order to foster knowledge generation and transformation into commercial use, and in turn enhancing the innovation process (Tuunainen, 2005).

Becoming an entrepreneur is more common among male students but also more and more female students are interested in becoming an entrepreneur, this can be attributed to the changing role of women within society and a higher proportion of women participating in business education in general, in fact 40% of top MBA programs students are female[1]. It's a noticeable phenomenon that the proportion of female entrepreneurs is growing in the last two decades and this trend is expected to continue (Rauth Bhardwaj, 2014). Nevertheless in many high-income countries, men are almost twice as likely to turn their entrepreneurial intentions into actual entrepreneurial behaviour (Maes, Leroy, & Sels, 2014). Similarly, women are 20% more likely to cite necessity, rather than opportunity motives for start-up activity compared to men, even though at individual level, women tend to have equal educational levels (Elam et al., 2019). Besides that women generally choose to start and manage firms in industries such as retail and services that are often perceived as being less crucial to economic development and to the knowledge economy (Gupta, Turban, Wasti, & Sikdar, 2009), only 5% - 15% of high-tech, high-growth businesses are owned by women (European Commission, 2008). A recent analysis found that less than 3% of the approximately 6500 companies that successfully raised venture capital during 2011–2013 had a female CEO (C. Brush, Greene, Balachandra, & Davis, 2018). Accordingly, the European Commission argues that women's intellectual

---

[1]

https://hbr.org/2019/12/research-gender-diversity-on-start-up-boards-is-worse-than-you-think#comment-section

potential and their contribution to Europe's competitiveness are not being maximized and women thus represent a large pool of high-potential female entrepreneurs (European Commission, 2008; Terjesen, 2016) which might open up potential avenues to even higher growth of the local and national economy[2]. Other researchers found that female entrepreneurs show high social and environmental value goals, rather than only economic profits, which means that women are important to society and community since they may give back more to the society than their male counterpart would (Giménez & Calabrò, 2018).

Although there are countless discussions, investigations and studies in literature on the position of women within the entrepreneurship field, scientists, economists and researchers dealing with gender-specific issues have different views on the origin, causes and reach of the under-representation of women in entrepreneurship. Prior research found that female entrepreneurs are facing a greater number of challenges compared to male entrepreneurs. Some examples include social and cultural factors, work-family balance, and access to finance (Ahl, 2006). This thesis argues that these differences are attributed to several different ecosystem attributes, which include institutions, cultural, political, economic, infrastructure, financial markets, policies and programs (C. Brush et al., 2019). Accordingly this study abandon the persistent notion of entrepreneurship as a performance-oriented and equally accessible field of gender-neutral opportunities, and argue that different conditions of the entrepreneurial ecosystem concept make it difficult for women to take the position of an entrepreneur especially when situated within the context of technology (S. Yousafzai, Fayolle, Saeed, Henry, & Lindgreen, 2019).

---

[2] https://hbr.org/2019/10/the-trillion-dollar-opportunity-in-supporting-female-entrepreneurs

Recognizing gender as an underlying social structure does not preclude other explanations, such as individual preferences, rather understanding how gender influences personal choices is a crucial insight from feminist literature (Lundine, Bourgeault, Clark, Heidari, & Balabanova, 2019) and sheds new light on the notion that the institutional environment influences women and men differently. For this reason, this thesis centres its attention only on women entrepreneurs and ensures that the full range of support female entrepreneurs need from a broad range of resource providers and gives answers to how to make resources more accessible in order to transform the ecosystem to be more inclusive (Clark Muntean & Özkazanç-Pan, 2015). In fact, Welter, Brush, & Anne de Bruin (2014) argue that the common 'all are alike' approach within entrepreneurship research and practice is extremely decontextualizing (Ahl, 2006; C. G. Brush, de Bruin, & Welter, 2009) and that future research should rather conceptualize gender as a fluid process shaping women's life chances (Marlow & McAdam, 2013; S. Yousafzai et al., 2019). Accordingly, researchers have pointed out that a gender-neutral approach may have accounted for the failure of research on women's entrepreneurship to unravel the complex web of intertwined socially, economically and politically framed realities within the entrepreneurial ecosystem (Ahl & Marlow, 2012; Marlow & Swail, 2014; S. Yousafzai et al., 2019).

Since the presence of a significant gender gap in entrepreneurship is well documented, there is still considerable controversy over the precise reasons for this gap, which in turn has implications for the appropriate policy responses (Abreu & Grinevich, 2016). This paper addresses this gap in the literature and contributes new knowledge to the field of female entrepreneurship by identifying key considerations around university-led entrepreneurial ecosystems. Therefore this thesis contributes to implications for policymakers, educators and

scholars who need to know more about the processes that drive and support women in forming entrepreneurial intentions (Laudano, Zollo, Ciappei, & Zampi, 2019).

Against this background the following study, rooted in the concept of entrepreneurial ecosystems is guided by the following research question:

How can university-led entrepreneurial ecosystems use the knowledge gained from analyses on female entrepreneurs, to work on making change and enable more female students to start an enterprise?

To assist answering the focal research question, the following sub-research questions have been formulated:

1. Which factors within the entrepreneurial ecosystem have an influence on female students' entrepreneurial intentions?
2. Which gendered barriers might the entrepreneurial ecosystem produce regarding the three essential entrepreneurial processes for female students?
3. How can the university-led entrepreneurial ecosystem help to overcome these barriers and enable female students' entrepreneurial activity?

The results of this study contribute to the female entrepreneurship literature and provide practical implications in three ways: first, by linking the literature on entrepreneurial ecosystems and gender in order to highlighting how these two streams might benefit or hinder potential female entrepreneurs, second, by emphasizing the potential of designing gender-specific university based ecosystem policies to stimulate entrepreneurial activity and third by revealing the potential for further development of already successful start-up ecosystems. More broadly, the research contributes to the awareness and importance of

women entrepreneurship and promotes the awareness of the changing role of women in the society and the importance of the development of women (Ahl, 2006).

In order to answer the research questions, the following steps will be performed in the next sections. The second chapter provides an overview regarding the existing research and literature on entrepreneurial ecosystems and the position of universities within the ecosystem as well as gendered practices that the ecosystem might produce. Chapter three describes the design of the research, data collection and analysis. Then the next chapter describes the results of this study. The last chapter will discuss the findings and conclude the research based on the main findings, discuss the limitation of the current research, indicate academic and practical implication, and give recommendations on future research.

Theoretical framework

In this part, the theoretical approaches on the topic of female entrepreneurs and business founders within the entrepreneurial ecosystem are presented. In order to be able to answer the question of how social constructions within the entrepreneurial ecosystem influence the intentions of women to start a business, it is necessary to embed the topic in a theoretical framework. Firstly, the general concept of entrepreneurship ecosystems is discussed. The next step will consist of deploying the social effects that the entrepreneurial ecosystem might produce in order to find out whether entrepreneurial ecosystems promote entrepreneurial intentions and attitudes or inhibit them.

Definition of key terms

Here the primary constructs used in this study will be defined.

Entrepreneurship: Entrepreneurship is a process in which opportunities for creating new goods and services are explored, evaluated and exploited (Schumpeter, 1934). Whereas most entrepreneurial ecosystem approach often narrows entrepreneurship down to high-growth start-ups, claiming that this type of entrepreneurship is an important source of innovation, productivity growth and employment (Bell-Masterson & Stangler, 2015; Brown & Mason, 2017; WEF, 2014). Empirically, this claim seems too exclusive: innovative start-ups or entrepreneurial employees can also be forms of productive entrepreneurship, but it is clear that the entrepreneurial ecosystem approach does not by definition include the traditional statistical indicators of entrepreneurship, such as "self-employment" or "small businesses", into entrepreneurship (Stam, 2015).

Gender: Gender is the social dimension of sex. The distinction between sex as ascribed to biology, anatomy, hormones, and physiology, and gender as constructed through social, cultural, and psychological means is an important one in the social sciences. Where sex (male and female) is inborn and refers to what people are born as, gender is what people "do" when they attribute a circumscribed meaning to male and female (Bruni, Gherardi, & Poggio, 2004). Gender is not simply one aspect of sex, but, basically, it is something one does, and does over and over again, in interaction with others. In this sense, gender is not a stable identity from which various acts proceed, it is rather an identity created through a stylized repetition of acts. More precisely gender describes the culture-specific and historically variable roles, expectations, values, and order associated with the gender assigned at birth (Gupta, Turban, Wasti, & Sikdar, 2009). Furthermore, gender identification is the extent to which individuals identify or see themselves as more or less masculine or feminine, because gender is "done" rather than something people "have" (Bruni et al., 2004; Gupta et al., 2009).

Although gender role stereotypes and gender identification represent different types of information for men and women, they are both socially constructed and learned through a socialization process over time (Gupta et al., 2009).

Entrepreneurial ecosystems and their underlying entrepreneurial processes

Actually, there is no common entrepreneurial ecosystem approach in recent literature, accordingly there is no shared definition just yet. Generally, researchers on entrepreneurial ecosystems agreed, that ecosystems are based on a region or an area, that entrepreneurial activity of some type is an outcome, and that there is a combination of institutional, sociocultural, and economic factors involved (Brown & Mason, 2017). Besides that research on entrepreneurial ecosystems highlights the fact that entrepreneurship takes place in a network of interdependent actors within the entrepreneurial ecosystem (Stam, 2015). Accordingly, ecosystems represent several overlying sets of attributes and institutions that ideally encourage entrepreneurial activity and provide critical resources needed for new ventures to start and grow. A healthy inclusive entrepreneurial ecosystem requires four conditions to become established and develop: (1) density, as in the number and proportion of individuals engaged in entrepreneurship; (2) fluidity, including a constant shift in population, labour market change and firm growth; (3) connectivity, reflected in the existence of deal making and networks; and (4) diversity of opportunity (McAdam, Harrison, & Leitch, 2019). In line with that, ecosystem attributes are sustained and reproduced through their relationships with the other attributes within the entrepreneurial ecosystem (Spigel, 2017). Nevertheless Isenberg (2014) points out that there is not only one driver of an entrepreneurship ecosystem because by definition an ecosystem is a dynamic, self-regulating network of many different types of actors. Recent literature on entrepreneurial ecosystems focuses on the role of the

social context in allowing or restricting entrepreneurship (Stam, 2015). Accordingly researcher agreed that ecosystems unite local culture, networks, money, universities, and policies that create environments supportive of innovation-based ventures (Spigel, 2017) providing not only access to resources, but also and more importantly opportunity recognition and legitimacy, necessary for start-up activity (Elfring & Hulsink, 2003).

Whereas Isenberg's representation of entrepreneurial ecosystems is a more basic model (Brown & Mason, 2017), Spigel's (2017) relational perspective of entrepreneurial ecosystems including cultural, social and material attributes provides an entrepreneurial ecosystem framework which can analyse them in order to reveal the different ways in which they influence entrepreneurial processes. Spigel (2017) identified 10 core cultural, social and material attributes of entrepreneurial ecosystems and their underlying relational structure which in turn ideally reinforces a supportive regional environment that increases the competitiveness of new ventures. Similarly, Stam & van de Ven (2019) developed an entrepreneurial ecosystem approach which rather focuses on outcomes of entrepreneurial ecosystems, namely rates of entrepreneurs, than on inputs. Also the so-called 3M framework and the extended version, the 5M framework (C. G. Brush, de Bruin, et al., 2009) which states that venture creation requires not only the presence of a market, including the opportunity recognition and exploitation in the market, access to money in terms of funding and management in terms of accessible human capital, as well as a meso and macro environment, whereas the meso environment relates to the regional support and public policies and a macro environment which focuses on cultural and societal norms and expectations. The 5M framework got recognized as a gender aware framework for analysing female entrepreneurship and argues that new venture creation requires a combination of market,

management, money and a favourable meso and macro environment for women in order to become an entrepreneur (Berger & Kuckertz, 2016).

Building on these prior studies (Berger & Kuckertz, 2016; Brown & Mason, 2017; C. G. Brush, de Bruin, et al., 2009; Isenberg, 2011; Spigel, 2017; Stam & van de Ven, 2019; WEF, 2014), this thesis proposes an integrative model of entrepreneurial ecosystems consisting of ten elements. Further the entrepreneurial ecosystem elements provide legitimacy, opportunities as well as access to resources necessary for new venture creation (as illustrated in Figure 1). Accordingly and based on the networking nature of an ecosystem, this thesis will concentrate on three crucial entrepreneurial processes within the entrepreneurial ecosystem which are especially important for new venture creation (1) access to resources responding to the resource endowments, (2) opportunity recognition reflecting the social arrangements within an ecosystem and (3) legitimacy acknowledging the institutional and cultural attributes (based on Elfring & Hulsink, 2003).
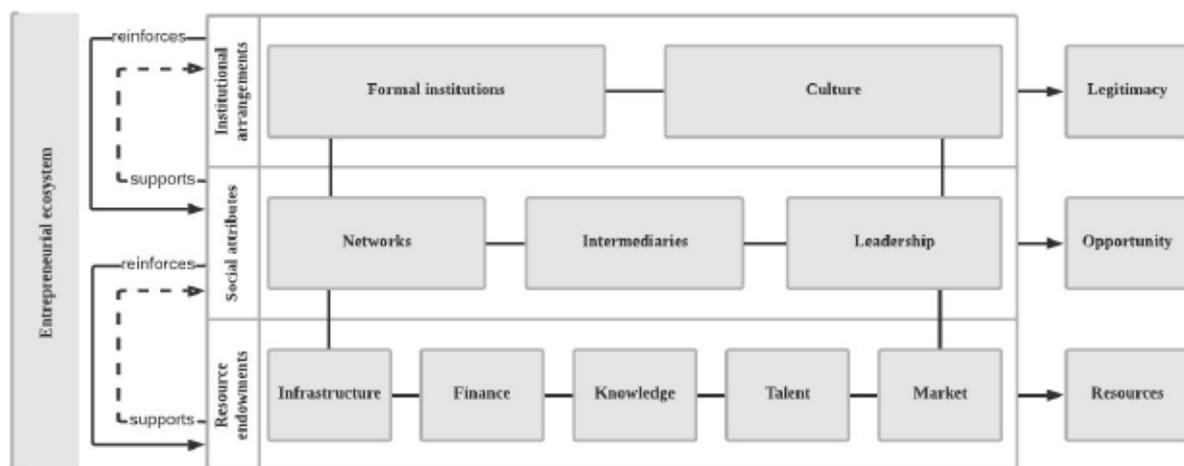
Figure 1 Elements of the entrepreneurial ecosystem, the relationships among ecosystem attributes and entrepreneurial processes

Entrepreneurial universities and interdependencies within the entrepreneurial ecosystem

According to Stam & van de Ven (2019) higher education has links to not only money, through venture capital and business services but also to knowledge through access to R&D and innovation networks (see Figure 2).
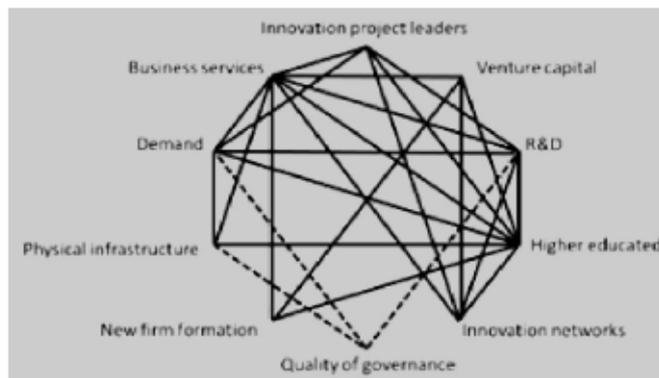
Figure 2 Interdependence web of entrepreneurial ecosystem elements based on Stam & van de Ven (2019)

Universities can help create supporting cultures and networks by removing institutional barriers to entrepreneurs, training skilled workers and entrepreneurs, and funding specific support programs such as networking events and incubation facilities (Spigel, 2017). Besides that, universities develop not only new technologies that create entrepreneurial opportunities, academic entrepreneurs can take these opportunities to market, or they can spill over into existing start-ups. Established firms can access the knowledge of universities through hiring graduates, commissioning research, or through more informal knowledge spillover paths like discussions with faculty or public talks. According to Jansen, van de Zande, Brinkkemper, Stam, & Varma (2015) entrepreneurial university (1) educate in order to create awareness for entrepreneurship as a career option, (2) stimulate, by supporting students with a business idea

in the transformation from an idea towards a complete business plan an (3) incubate through supporting the launch of an actual company.

Universities help develop the human capital of a region while simultaneously fostering entrepreneurial mindsets in its students, encouraging them either to start new ventures or to work within them (Spigel, 2017) by offering entrepreneurship education, providing incubators facilities, mentoring programs and network platforms. As a result, the role of universities has been considered as increasingly important as they have contributed to the nation's start-up infrastructure emergence by training new generations of entrepreneurs. With this in mind the spirit of the educational place and its shared values and norms can affect entrepreneurial intentions (Rosique-Blasco, Madrid-Guijarro, & García-Pérez-de-Lema, 2018). Moreover academics highlight that besides government policies, characteristics of the local context, like infrastructure and money, as well as university support mechanisms, influence entrepreneurial activities most (Miranda, Chamorro-Mera, Rubio, & Pérez-Mayo, 2017).

Gender within the entrepreneurial ecosystem

Although Krueger's (2000) definition of entrepreneurship as the follow-up of an opportunity regardless of existing resources is consistent with the common claim that entrepreneurship offers gender-neutral performance-based career opportunities. In practice, however, women are never just women, but are located within a specific context where interactions with the entrepreneurial ecosystem determine the future of women's entrepreneurship (Ahl & Marlow, 2012; Calás, Smircich, & Bourne, 2009; S. Y. Yousafzai, Saeed, & Muffatto, 2015). In fact ecosystem components are not entirely equally distributed, while they impact everyone, some of the ecosystem components have a higher impact on women than on men, or may be less accessible to women (Foss, Henry, Ahl, & Mikalsen, 2019). Accordingly, there are several

barriers to women entrepreneurship. As a result, women are underrepresented in entrepreneurship, women are leaving employment in science and technology industries, due to an adverse environment, including gender bias and glass ceiling effects, which in turn reduces their potential entrepreneurial contribution, where networks exist, they are not gender inclusive and women do not participate, as a result women in entrepreneurship are significantly under-represented (McAdam et al., 2019). Researchers argue that significant structural barriers to enter entrepreneurship remain. Gender schematic thinking, stereotype threat and conflict between gender norms are very likely to be part of the entrepreneurial ecosystem which in turn contribute to the under-representation of women in high-stakes venture capital and high-tech, high-growth businesses (Ozkazanc-Pan & Clark Muntean, 2018). In line with that there is substantial evidence that women entrepreneurs assess risk, networks, access to resources, success and react to governmental support differently than men (Berger & Kuckertz, 2016; C. Brush et al., 2019). Given these cognitive differences, women have lower expectancy, support, and value with respect to entrepreneurial activities and these are manifested in gender differences at each stage of entrepreneurship (Clark Muntean & Özkazanç-Pan, 2015). Therefore, universities should design policies to stimulate female entrepreneurship rather than aiming to stimulate entrepreneurship in general.

This thesis analyses the university-based entrepreneurial ecosystem through a gendered lens in order to illustrate how gender influences the choice of starting a technology and high-growth venture, since universities offer support in form of a range of entrepreneurial resources necessary to commercialize innovative ideas. Further, this thesis argues that it is essential to recognize and evaluate the influence of ascribed characteristics within and upon the entrepreneurial ecosystem, where the potential entrepreneur is positioned as a social actor

operating within prescribed norms (Marlow & Mcadam, 2015). In this regard institutions such as universities can have a hidden gender dimension which might reduce the feasibility and desirability of entrepreneurship for women (C. Brush et al., 2019). Accordingly improving the entrepreneurial ecosystem effectiveness can influence entrepreneurial intentions and behaviour consequently (Henry, Foss, & Ahl, 2016; Fini et al., 2009; Miranda et al., 2017).

Therefore, the following section of this thesis will analyse gender dimensions within the specific context of potential female entrepreneurs. In order to understand roles of women within the entrepreneurial ecosystem context. The first section of this chapter deals with the historical roles of women within the economic context, since the historical developments have an impact on the current situation of women entrepreneurs, this aspect is of great relevance, followed by the theoretical discussions of entrepreneurship being a gendered activity.

Institutional and cultural attributes

Institutional and cultural attributes are the underlying beliefs and outlooks about entrepreneurship within a region. These attributes **legitimate, regulate and incentivize** entrepreneurship. Entrepreneurial ecosystems should encourage a dynamic institutional and cultural environment where the shared culture fosters and supports cooperation and knowledge (Spigel, 2017).

Cultural values are shaped throughout generations of a society, resulting in the creation of specific motivations, attitudes and behavioural patterns (Bogatyreva, Edelman, Manolova, Osiyevskyy, & Shirokova, 2019). According to Spigel (2017) regional cultures influence entrepreneurial activities by shaping acceptable entrepreneurial practices and norms. Hence culture normalizes attitudes and values about entrepreneurship, making it seem like a desirable and feasible career path. This helps create an environment that supports firm

creation and encourages risky entrepreneurial behaviour. Cases of successful entrepreneurs within the community showcase benefits and possibilities of entrepreneurship and further legitimize the status of risk taking behaviour within the region's culture (Spigel, 2017).

In summary a strong entrepreneurial ecosystem is based on visible success stories, a strong entrepreneurial culture and supportive public policies (Stam & van de Ven, 2019). Institutional support in the form of local or nationwide policies include the reduction of legal barriers to start a new venture, develop profitable tax regimes, providing financial support to run entrepreneurial support, like networking events and incubation programs. While the effectiveness of policies promoting entrepreneurship is debated, policy remains an important attribute of the entrepreneurial ecosystem (Spigel, 2017).

Gender on the institutional level

Institutions and cultural beliefs, as shown in the last section can restrict or enable entrepreneurial behaviours and actions by influencing the nature and extent of entrepreneurship, its development and its outcomes (Welter et al., 2014). On the one hand institutions can help to reduce transaction costs, uncertainty and risks of individual behaviour. On the other hand institutions can add to transaction costs for entering entrepreneurship by affecting the returns from entrepreneurial activities (C. Brush et al., 2019). Accordingly, institutions shape both individual interests and desires as well as opportunity recognition, providing possibilities for actions.

Regulatory, normative, and cognitive institutions can all be of gendered nature. Although scholars have suggested that entrepreneurship holds the promise that individuals' career success will rise or fall on their own merits the most fundamental contribution of women's entrepreneurship research lies in acknowledging the fact that entrepreneurship is not a

gender-neutral phenomenon and instead, occurs within and is thus impacted by systems of socially constructed and widely shared beliefs about the characteristics typically associated with women and men and the behaviours and roles attached to members of each sex (Jennings & Brush, 2013). These hidden gender aspects consist often of informal practices, rules, and norms in the form of men's dominant position in society, as well as gender biases, which emerge from social norms founded on accepted ideas about masculinity or femininity. Even further Gupta et al. (2009) suggest that entrepreneurship is stereotyped as a masculine field and is unlikely to provide immunity from widely held gender stereotypes and the biases they can produce and therefore influences female entrepreneurs intentions and activity. As a result, regulatory, normative, and cultural-cognitive institutions influence entrepreneurial intentions directly through perceiving entrepreneurship as desirable and/or feasible.

Regulatory institutions

Regulatory institutions, in the context of entrepreneurial ecosystems, refer to any regulation or law which directly influence the costs of setting up a business and any policies that impact the desirability and feasibility of entrepreneurship. Policies are seen as actions taken by the government to address a particular public issue to protect and benefit the population (Ahl & Nelson, 2015). Thus entrepreneurship policy is a core component of the entrepreneurial ecosystem (Henry et al., 2016). According to researchers who contribute to the discourse on women's entrepreneurship policy, regulatory institutions can have a hidden gender dimension which reduces the feasibility and desirability of entrepreneurship for women. (Ahl & Nelson, 2015; C. Brush et al., 2019).

Especially equality between men and women in the labour market, in terms of pay and employment rates, is the goal in many countries and is a reason for the emergence of

numerous organizations and women's networks. The European Commission, for example, has introduced a strategic program to increase women's workforce potential: up to 75% of female employment by 2020 and a female quota of 40 percent in leadership positions by 2020 (European Commission, 2016). Even though leading positions and board membership requires different competences and skills compared to entrepreneurship, the European Commission hopes for more women in senior management positions that could serve as role models for successful women in the labour market. In line with that, the European Commission is doing its utmost to increase the number of female entrepreneurs by creating a Europe-wide on-line mentoring, advisory, educational and business networking platform for women entrepreneurs (European Commission, 2013). Critique from researchers state that policy initiatives to establish women-only networks have been largely ineffective (McAdam et al., 2019). They argue that initiatives and policies which do not address deeper structural issues within the entrepreneurial ecosystem are inappropriate and rather contributes to the othering of women within the entrepreneurial ecosystem and the dominant actors, namely male entrepreneurs, who do not consider the networks as credible nor as sites to foster economic capital (McAdam et al., 2019). In fact, women-only networks reproduce the idea that women are problematic and need to be fixed and that women have to learn to play the game according to the dominant rules and therefore perpetuating the distinction and differentiation between men and women (McAdam et al., 2019). Supporting this statement, Ahl & Nelson found that the discourse on women's entrepreneurship reflected in policy tended to reproduce women's subordinated position in society rather than improve it. Results showed that although within a welfare state system in which part of reproductive work is publicly paid for and organized, thus freeing women to participate in the labour market, made no difference in how women were positioned in entrepreneurship (Ahl & Nelson, 2015). On

the other hand previous policies and structures that intended to secure equality based on post feminism, which indicates that men and women are the same, strongly directed towards recognition and identity politics reproduced women's subordination and the status quo remained as well (Berglund, Ahl, Pettersson, & Tillmar, 2018).

Building on traditional gender role reasoning, young males are less concerned with future family responsibilities and thus more willing to take risks by performing entrepreneurship at the early stage, while females prepare for future parental roles at a much earlier stage (S. Yousafzai et al., 2019). Research suggests that women dilute, and men intensify their work effort with increasing family responsibilities. Furthermore, family policy configurations can have both direct and indirect effects on women's career choice. According to Hook & Pettit (2016) countries can be characterized as supporting "dual-earner" families through generous childcare provisions or "earner-carer" configurations through generous parental leave. Accordingly, policies that support caregiving at home, may lead to lower employment rates among mothers which may influence occupational segregation (Hook & Pettit, 2016). Overall government's labour market regulations, intended to motivate women to enter the labour market, have mainly a positive influence on the traditional labour market, while they influence women's participation in entrepreneurship negatively (Thébaud, 2015). In contrast Berger & Kuckertz (2016) suggests that policies which make the labour market in general more accessible to women, through entrepreneurial education tailored for women which in turn might affect the proportion of female founders because greater female participation in the labour force increases gender equality, which is, in combination with other aspects, a catalyst for female entrepreneurship.

Besides that, the regulatory institutions within the ecosystem may unintentionally discriminate against women's businesses, given the fact that enterprise policies often favour high-tech, high-growth, and export-oriented manufacturing sectors that are typically male dominated (Anna, Chandler, Jansen, & Mero, 2000). In line with O'Brien, M. Cooney, & Blenker (2019) who argue that such supportive policies oriented towards traditional forms of entrepreneurship, may not be particularly useful for women and might push them even further away from entrepreneurial activity and ever closer to becoming excluded by society.

Normative institutions

Women constitute 52% of the total European population but represent only one-third of the self-employed or of all business start-ups in the EU. The phenomenon of under presented women in entrepreneurship holds true across the globe. However, the so-called gender gap in entrepreneurial activity varies slightly across countries because of the influence of different roles and stereotypes on entrepreneurial behaviour (Rubio-Bañón & Esteban-Lloret, 2016). Normative institutions as such determine acceptable roles for individuals within a society and therefore influence the desirability of entrepreneurship for women (Ahl, 2006).

According to the social role theory of sexes by Eagly & Wood (2016), men and women perceive the world differently because of the socialization processes that begin in early childhood (Entrialgo & Iglesias, 2016). In this respect Bem's model of sex-role inventory (1974) assumes that stereotypes affect individuals through their internalization into the self during the socialization process. Stereotypes in turn are assumed to affect how individuals perceive themselves, and subsequently how they behave. In line with sex role inventory reasoning by Bem (1974), women were raised to pursue careers as employees in the caring professions, ranging from teaching, nursing, childcare, to a wide variety of personal retail

services, rather than being encouraged to start their own businesses (Mueller & Dato-On, 2008). Relating to stereotypes, Schein (1992) identified sex role stereotyping as a major psychological barrier in becoming a female manager. Schein demonstrated that the managerial position was stereotyped as a male occupation. Using first a sample of male managers and then a sample of female managers, she found that both sexes perceived that the characteristics required of a successful manager were viewed as more commonly held by men in general than by women. Similarly Acker's (1990) theory of gendered institutions provides a framework which explores the various institutional barriers experienced by women. Acker theorized that gendered processes perpetuate unfair gendered practices making it difficult for women working in male-dominated professions to adapt and advance. Following insights from these sex role and stereotype theories, this thesis assumes that a similar stereotypical view prevalent in leadership is also found relating to entrepreneurship and, indeed, is reinforced by the masculinized discourse which is predominant (Ahl, 2006; Ahl & Marlow, 2012). The result of stereotyping is a perceived mismatch between the female gender role and the entrepreneur leader role (Westhead & Solesvik, 2016). Lee & Huang (2018) highlight that especially evaluations of entrepreneurial ventures are inclined to stereotyping because the entrepreneurship context is inherently uncertain and characterized by rapid decision making which heavily rely on the limited information available about ventures and their founders, including ascriptive entrepreneur characteristics, such as gender. Accordingly resource providers rely on stereotypes to construct complex images of entrepreneurs and their ventures beyond what is knowable from objective founder and venture information (Lee & Huang, 2018).

Further socially constructed gender roles and stereotypes lead to stereotyping jobs as predominantly feminine or masculine, accordingly individuals aim at jobs that are socially acceptable for their own sex (Shinnar, Hsu, & Powell, 2014). In particular the relationship between gender and career choices oppose that men and women's preferences are a reflection of their knowledge about gender specific characteristics associated with the as well as the individuals identification with masculine or feminine characteristics, the gender identification (Gupta et al., 2009; Shinnar et al., 2014). Shinnar, Hsu, Powell, & Zhou (2017) point out that embedded norms and cultural factors influence the individual career choice to be an entrepreneur. Women's roles they are expected to fulfil, and their professional ambitions are in turn influenced by parents, peers, schools, media, and various other dimensions of the external environment (Gupta et al., 2009; G. Santos, Marques, & Ferreira, 2018). Early childhood events create fundamental differences between males and females for example by greater prenatal androgenization (Kray & Thompson, 2004), or bad experiences with negative stereotyping. As a consequence, women try to avoid stereotype threatening areas in order to avoid performing bad (Westhead & Solesvik, 2016). Accordingly stereotypical characteristics attributed to men and women in society influence the classification of various jobs as masculine or feminine, which tends to affect people's preferences toward such jobs, therefore men, compared with women, are assumed to and tend to participate and excel in math and science studies, while women, compared with men, are more inclined toward arts and languages (Gupta et al., 2009). Besides that, Gupta et al. (2009) found that jobs related to power, prestige, and authority in a society are stereotyped as masculine. Entrepreneurship has also been stereotyped as a male field but, a recent study indicates that women, having mothers

who are entrepreneurs, are more likely to become entrepreneurs, showing that the masculinized stereotype of entrepreneurship is disconfirmed (Giménez & Calabrò, 2018).

Brush et al. (2009) argue that opportunity recognition is closely linked to the environment and is socially constructed and shaped. Accordingly, a woman intending to start a business might receive less normative support from society and a lack of emotional support from their family (C. Brush et al., 2019) if the society in general connects the definition of women with the roles connected to family and household. Consequently, this could lead to lower opportunity recognition by women. Gupta et al. (2014) observed that when entrepreneurship is examined free from gender stereotypes, women evaluate entrepreneurial opportunities in the same way as men. But still many societies continue to assign household and family roles to women, where these traditional gender roles persist, entrepreneurship also is typically characterized as masculine activity, which can further discourage women. Especially female entrepreneurs face work-family conflicts especially when their businesses take high-growth paths (Giménez & Calabrò, 2018). In general the family contexts might have a larger impact on women than men (C. G. Brush, de Bruin, et al., 2009) because women still carry the most responsibilities in regard to household and children's care (Ettl, Welter, & Achternhagen, 2016). Although household composition does not give the full picture it is increasingly recognized that the household context plays an important role and can help explain economic and social differences (C. G. Brush, Ceru, & Blackburn, 2009; de Bruin, Brush, & Welter, 2007; Poggesi, Mari, & De Vita, 2016). Based on the Schumpeterian approach of entrepreneurship, individuals make decisions based on their necessities and/or opportunities, accordingly there is evidence that women entrepreneurs are often motivated by necessity rather than opportunity (de Bruin, Brush, & Welter, 2006). In fact women are driven by a variety of reasons to step

into entrepreneurship, but in particular, family needs and work flexibility (Giménez & Calabrò, 2018). Ettl et al. (2016) mentioned that women adjust the choice of entrepreneurial activity and the industry they are operating in according to the family status. This linkage is also confirmed by Poggesi et al. (2016) and Hughes, Jennings, Brush, Carter, & Welter (2012) who state that family plays a pivotal role in influencing women growth-oriented strategies and that the influence is strictly connected to women's family life cycle stage. As a consequence the entry may be self-restricted to more feminine professions, sectors, and business fields such as personal services or care professions (Marlow, 2002), which further contributes to horizontal and vertical gender segregation in entrepreneurship (C. Brush, Edelman, Manolova, & Welter, 2019). On the other hand researchers argue that opportunities are not equally available to everyone, so that low-paid businesses were those most easily available to women, so gendered patterns in choice of occupation remain the same (Berglund, Ahl, Pettersson, & Tillmar, 2018).

Cultural-cognitive institutions

Cultural-cognitive institutions shape the cognitive legitimacy of entrepreneurial new ventures. If key social players of the entrepreneurship ecosystem, such as suppliers, buyers, regulatory agencies, resource providers, or the media, are not sure what to make out of an organization or are unwilling to accept its outputs, the new venture's activity and survival chances are vulnerable. Gaining cognitive legitimacy is a difficult task for all new organizations entering the market, but it may be particularly difficult for some types of women-led entrepreneurial ventures (C. Brush et al., 2019b). This thesis argues that it is essential to recognize and evaluate the influence of ascribed characteristics on the legitimation of potential entrepreneurs

since they are positioned as a social actor operating within prescribed norms which in turn facilitate, or deny, legitimation (Marlow & Mcadam, 2015).

Women are generally seen as secondary to men especially regarding qualities believed to be necessary to succeed in the business world and the talents and skills they bring to the table are seen as less valuable compared to those of men (Marlow, 2002). It is also proven that men tend to hold stronger views on gender-role stereotypes, although both men and women may perceive entrepreneurial characteristics as being more similar to masculine characteristics, only women may see entrepreneurs and females as also having similar characteristics (Gupta et al., 2009). Marques (2017) as well as Yadav & Unni (2016) point out that especially women who want to enter high-growth innovative entrepreneurship face greater barriers in accessing funds, an explanation might be that women tend to be more risk-averse and less self-confident than men which results in credibility problems when dealing with bankers and investors (Poggesi et al., 2016). In fact, women who want to start their business in non-traditional areas get less financial support than those in traditional business fields because those industries are traditionally less acceptable for women. Accordingly, these "non-traditional" women get frustrated trying to get loans or venture capital from banks or other organizations, since they feel that the financial institutions do not take them seriously as they try to find funding for their non-traditional ventures (Anna et al., 2000). This phenomenon might explain why women-owned businesses start with both lower levels of overall capitalization and lower ratios of debt finance than men-owned businesses (de Bruin et al., 2007) and why women-owned firms are more likely to be smaller than male-owned firms in terms of sales, assets and number of employees and that most women-owned firms are in the service and retail industries which require less funding (Poggesi et al., 2016). Another

issue in the context of venture financing, for example is that investors ask promotion-focused questions to male entrepreneurs while asking prevention-focused questions to female entrepreneurs (C. Brush et al., 2019).

When talking about women who are treated differently because of their gender, the term gender discrimination is not far-fetched (de Bruin et al., 2007). When entrepreneurship is analysed from a gender perspective, female entrepreneurship is characterized by different experiences which in turn shape women's entrepreneurial attitudes, accordingly sex role stereotypes and relations between genders continue to persist, along with concrete practices of discrimination (F. J. Santos, Roomi, & Liñán, 2016). Social inequality within a society shapes perceptions of legitimate behaviours for different groups and may impact individuals' ability and desire to follow-up with an idea and pursue entrepreneurship (Bogatyreva et al., 2019). Explicitly or more subtly, these practices of discrimination and social inequality are manifested in both the labour force and in society, more in practice than in speech (G. Santos et al., 2018). In fact gender roles act as a gate-keeping device for women to participate in entrepreneurship that perpetuates an image or set of characteristics that are supposedly necessary to engage in an entrepreneurial career (Marlow & Mcadam, 2012). Crossing those gendered boundaries, e.g. when a woman tries to enter a non-traditional business area, she will face different rewards and punishments since social responses reserve rewards as well as punishments for specific behaviour from specific societies. Women might face prejudgment when they intend to become entrepreneurs, in so far as stakeholders perceive an oddness between the female gender role and the entrepreneurial masculine leadership role or women may self-stereotype in so far that a masculine construction of entrepreneurship can block female entrepreneurial intention and behaviour (Marlow & McAdam, 2013). As a result,

women might perceive a lack of fit between themselves and the masculine stereotype associated with entrepreneurship. Consequently, women may negatively evaluate their ability to engage in entrepreneurship and, moreover, can experience negative evaluations by potential resource providers (Westhead & Solesvik, 2016). Gender discrimination persists, with women still being stereotyped in general and new stereotypes being ascribed to business-women in particular, as a result female entrepreneurs who want to survive and prosper, they must overcome not only the pre-existing social constraints, but also the newly-created barriers against their acceptance into the business community as equals (G. Santos et al., 2018). Women must now challenge the masculine norm by developing their potential to become as successful in the entrepreneurial activities as their male counterparts or preferably even better (Berglund et al., 2018).

Social arrangements within the entrepreneurial ecosystem

Networks and social interactions between ecosystem actors define the social attributes of a region or area. Networks for example help aspiring entrepreneurs and entrepreneurial businesses to gain new **knowledge about opportunities and new technologies** as well as obtaining access to financing from institutional investors like venture capitalists and angel investors and at the same time foster entrepreneurial visions and skills from mentors and skilled employees, like technical workers as well as experienced managers who can help entrepreneurs as their firms grow and mature (Spigel, 2017). Prior research on opportunity recognition found that the environment, prior knowledge, alertness, and systematic search allows opportunity recognition, while also stressing the importance of social networks which provide possibility to refine cognitive frameworks by discussing opportunities with members of the entrepreneurial ecosystem (Mary George, Parida, Lahti, & Wincent, 2016).

Whereas networks of entrepreneurial actors provide an information flow, leadership within the entrepreneurial provides direction and role models in the form of entrepreneurial leaders who are committed to the region. Especially new technology ventures require the necessary knowledge and prior experiences to exploit an opportunity, whereas technology innovation requires a mix of technical, entrepreneurial and managerial experience to turn a new technology into a market success (Park, 2005).

An entrepreneurial support network consists of formal institutions back up the formation and growth of entrepreneurial firms (Wright, Siegel, & Mustar, 2017). The supply of support services by a variety of intermediaries within the entrepreneurial ecosystem can substantially lower entry barriers for new entrepreneurial ventures and can foster entrepreneurial capacity across economies (Hechavarría & Ingram, 2019). Support firms allow start-ups to access capabilities they do not own internally, such as accountants, lawyers or human resource advisors who are familiar to the unique challenges of entrepreneurship. Incubation, acceleration, and coworking facilities also provide crucial services to support young companies by providing office spaces as well as advice and networking support (Spigel, 2017).

Gender on the organizational level

Within an entrepreneurship ecosystem, there are a variety of participating organizations that provide support, training, and participate in the process of stimulating new venture creation (Isenberg, 2010). For example, professional service organizations real estate, legal, accounting, insurance, and consulting companies all play a role in providing specialized support for start-ups. The presence of accelerators and incubators, co-working spaces, and other intermediaries that provide spaces and support are also considered essential for creating

a vibrant entrepreneurial ecosystem. Gender may be manifested with these organizations in different ways that can differentially support or inhibit men and women (C. Brush et al., 2019).

Acker's (1990) Theory of Gendered Organizations, as mentioned before, argues that gender is manifested within organizations through underlying assumptions and practices. According to Acker there are four gendered processes present in gendered institutions (1) legitimation of the predominant masculinity (exclude females through the construction of images, symbols and ideologies in the workplace), (2) control and segregation (constructed hierarchies implemented to secure the position of males), (3) doing gender (individuals are clearly associated with either male or female behaviours) and (4) gendered personas (reproduction of social structure through gender-appropriate behaviours of masculinity or femininity) (Shelley, Morabito, & Tobin-Gurley, 2011; C. Brush et al., 2019).

Construction of divisions

In organizations the distinction between male and female includes the division of labour, either horizontal or vertical which in turn influence women's work roles and opportunities and might result in gender differences within the entrepreneurial ecosystem (C. Brush et al., 2019).

Horizontal occupational segregation may mean that women are less likely to pursue business ownership in certain sectors, because they have not had the opportunity to develop skills, competencies, and industry knowledge. Women within the labour force usually have jobs that are defined by lower pay, skill, and status than those dominated by men, which in turn reinforces common stereotypes. Researcher argue that the management level jobs are highly stereotyped as masculine and therefore represents an important barrier for women to become a

manager, even when women become managers and business leaders, they are generally seen as less competent and disinterested in taking up challenges (Gupta et al., 2009; Yang & Aldrich, 2014). Accordingly, women are less likely to develop leadership and decision-making experience relevant to business ownership which reinforces vertical occupational segregation (C. Brush et al., 2019b).

Construction of symbols and images

The entrepreneurial being is put on a pedestal creating a mentality of comparison and competition (Berglund et al., 2018). A typical entrepreneur, in most people's heads are those they see in public and not those who are less visible day to day or what is seen and read in the media: for example, a young male starting a venture-capital-funded technology business (Bosma & Kelley, 2019). In entrepreneurship ecosystems, the media as well as support organizations and financers come up with narratives and stories about successful entrepreneurs celebrating men more than women (Gupta et al., 2009). Not surprising, considering that men own a larger share of businesses, as well as overwhelmingly outnumber women in industries like high technology that get the most notice from media, public, and policy makers (Marlow, 2002). In accordance with that researcher have proven that men feel more attracted to entrepreneurial behaviour and consider themselves more capable of performing as an entrepreneur compared to women (Maes et al., 2014). In addition, Verheul et al. (2009) argued that men will be comparatively more influenced by social norms toward entrepreneurship, probably because they are able to identify with the male identity of entrepreneurs in the first place. According to the feminist critique of entrepreneurship research, male entrepreneurs, particularly when white and middle class, enjoy a cultural hegemony and sense of normalness in their entrepreneurial identities (Giazitzoglu & Down,

2017) and actions that female entrepreneurs do not experience (Ahl & Marlow, 2012). Further, the practice of pursuing high-growth entrepreneurship, in particular those with aggressive funding goals that are more likely to pursue venture capital funding, has been consistently considered a masculine behaviour (Gupta et al., 2009). It has been noted that due to the masculine context of entrepreneurship, the stereotype of 'think successful entrepreneur – think male' continues to endure (Marlow & Swail, 2014). Besides that, researchers argued that entrepreneurial education is grounded on images of white, male successful entrepreneurs that reproduce masculinized normative behavioural patterns (Westhead & Solesvik, 2016).

Studies looking into the media representation of women entrepreneurs, concluding that newspapers put emphasize on the sexuality and good looks of women and address the double or triple burden as mother, carer for the family and being an entrepreneurs simultaneously, but seeing business success as unfeminine (Achtenhagen & Welter, 2011). Indeed society turned the "right mindset" for an entrepreneur into a male one and this is a challenge for everyone who wants to work as an entrepreneur and cannot identify with the predominant male image (Meyer, Tegtmeier, & Pakura, 2017). Although stereotypes held by women about being a manager and feminine characteristics may be slowly changing, men continue to see little similarity between manager and female characteristics (Gupta et al., 2009). Through the narratives of male entrepreneurs that are produced and perpetuated through the actions and behaviours of the participants of networks, challenges for women will still remain in entrepreneurial ecosystems (McAdam et al., 2019).

Gendered social structures

Social structures and interactions within and across organizations may also be gendered. Shelley, Morabito, & Tobin-Gurley (2011) illustrated that organizational structures, values as

well as policies can further segregate women. In line with that organizations who follow the law and meet a certain quota of women, hire women but do not fully integrate them because they feel that the change is forced upon them. Indeed the structure of organizations in regard to prevailing hierarchies, who the decision-makers are and the perceived gender roles within those hierarchies influences men and women differently (Acker, 1990). In the entrepreneurship ecosystem, accelerators, incubators, co-working spaces, and other spaces may have gendered norms for behaviours and interactions. It is estimated that there are more than 7000 accelerators worldwide hold only 22% female participants (C. G. Brush & Greene, 2016). In terms of university facilities, there are notably fewer women who access university incubation facilities or related supports, or start businesses in technology or STEM-based sectors that typically profit of such supports (Foss et al., 2019).

Organizations within the entrepreneurial ecosystem include not only accelerators and incubators that house entrepreneurs but also the interactions of entrepreneurs in the workplace, with vendors, business partners, suppliers, contractors, and other organizations. Brush, Edelman, Manolova, & Welter (2019) give an example, based on social dominance theory, which indicates structural inequality through a group-based consensus that may unfairly leave out certain groups and therefore maintain the power of others, accordingly powerful financial institutions may allocate resources in such a way to create and maintain group dominance, either by focusing on certain populations or through routinized decision-processes that focus primarily on objective criteria. There is a hypothesis that the lack of female partners and decision-makers may in part explain the inequality of venture capital funding. In fact, studies have shown that less than 8% of all partners in active venture capital firms are female (C. Brush et al., 2019). Marlow & Mcadam (2015) who investigated

gendered processes within business incubation found that even during the application process women were labelled as different. Interviewers, mostly white men in suits, treated female tenants kindly, they found that being female is influential and advantageous where interviewers thought that women must be treated differently, more gently, more kindly, more sensitively than men. Differentiation between male and female already during application also reinforces the notion that women look less competent. Which is related to another segregation practice within organization, whereas the belief is manifested that females are inadequate and incapable of performing the tasks that are male afflicted (Shelley et al., 2011).

Shelley et al. (2011) who researched gendered institutions and gender roles within policing found that women working in a profession that require characteristics traditionally associated as masculine were viewed as incapable of possessing those characteristics and unable to do the job or on the opposite men are threatened of change and as a consequence women were excluded from important informal social networks that were useful in learning about department politics, promotional opportunities, and general opinions about others in the department. Following this within the executive world, women have cited exclusion from male-dominated networks, a lack of appropriate role models and mentor figures and a lack of management experience as major barriers to their advancement up the corporate ranks (McGowan, Redeker, Cooper, & Greenan, 2012). Besides that, women who entered male dominated fields of occupation are classified as extraordinary, whereas men enjoy direct legitimation since they fulfil the normative identity attributes. Consequently, women feel obliged to learn the rules of the game in order to be considered credible players able to function in the entrepreneurial ecosystem, which in turn contributes to the notion that women

need to adapt, rather than challenging the prevailing gender norms in entrepreneurship (McAdam et al., 2019).

Resource endowments

Relevant resources needed for new venture creation are finance, knowledge, talent, infrastructure and market. Access to financing, preferably provided by actors with knowledge of entrepreneurship, is crucial for investments in uncertain entrepreneurial projects with a long-term horizon (Stam, 2015). An important source of opportunities for entrepreneurship can be found in knowledge, from both public and private organizations (Audretsch & Lehmann, 2005) as well as in strong local markets within entrepreneurial ecosystems, since the presence of local customers with specialized needs creates not only opportunities but encourages entrepreneurial spinoffs (WEF, 2014). Entrepreneurs within the entrepreneurial ecosystem are in a prime position to identify opportunities within the local marketplace because they interact with local potential customers and can easily test out new offerings. This gives young firms a platform to make early sales and build up their capabilities for future expansion (Spigel, 2017). Besides that, the presence of a diverse and skilled group of workers is important, as well as a good physical infrastructure.

Gender on the individual level

The individual entrepreneur is a central player in entrepreneurship ecosystems. Accordingly it is of great importance how the individual sees her-/himself in terms of gender identity and how others see the gender identity of the individual which either facilitates or hinders entrepreneurial activity (C. Brush et al., 2019b). As mentioned before the entrepreneurial field and especially the high-tech, high-growth sector of entrepreneurship is male dominated. Further, women as well as men tend to reflect their socially learned stereotypes onto potential

entrepreneurs. The entrepreneurial ecosystems literature highlights how mentors, role models and networks affect the desirability and feasibility of potential entrepreneurs (McAdam et al., 2019).

Entrepreneur

In this regard role models can contribute to entrepreneurial intentions by perceiving entrepreneurship as feasible and or desirable. When entrepreneurs have role models, they are more likely to see themselves as entrepreneurs. In areas where the role models are male or have only masculine qualities, women may not perceive that venture creation is feasible, and they may have a greater fear of failure or less confidence in their abilities to start a business (Global Entrepreneurship Research Association, 2017). Research has widely demonstrated that entrepreneurial self-efficacy is learned by observation and exposure to role models. In fact gender influences the selection of role models, according to Bandura's Theory of Social Cognition (Bandura, 1977), people think that if other people with skills that are equal to their own mastered a task, they are more likely to trust themselves. On the other hand, demotivate the failure of such persons. It is understood that the greater the resemblance to the observed person, the greater the influence by the model. Further Krueger et al. (2000) argue that role models affect entrepreneurial intentions only if they affect self-efficacy, they go even further and claim that gender and ethnic differences in career preferences seem to be fully mediated by differences in self-efficacy (Krueger et al., 2000). Overall entrepreneurial self-efficacy has high impact on all factors that are crucial for entrepreneurs, including risk-taking, uncertainty, creativity, leadership and proactivity, but also requires persistence and passion, for all entrepreneurial self-efficacy is highly relevant. As a consequence, entrepreneurial self-efficacy has become a target outcome of entrepreneurship training and education and

becomes increasingly relevant to career researchers, educators and policy makers (Newman, Obschonka, Schwarz, Cohen, & Nielsen, 2019).

In line with that researchers indicate that when a strong perception of fit with entrepreneurship is achieved, entrepreneurial intention is strongly predicted by entrepreneurial self-efficacy. In contrast, if one perceives a low level of fit or no fit, entrepreneurial intention will be low, regardless of entrepreneurial self-efficacy (Hsu et al., 2019). Entrepreneurial education courses may unintentionally focus on a male-oriented notion of entrepreneurship (Ahl & Marlow, 2012; Gupta et al., 2009). Furthermore, entrepreneurship case studies are mostly about men and most role models in entrepreneurship tend to be men (Bird & Brush, 2002). The greater number and visibility of male entrepreneurs as well as the perceptions of entrepreneurship as a prestigious and desirable employment role are likely to affect the gender typing of entrepreneurship. Practitioners need to recognize that women can be subject to a (perceived) lack of fit between their gender stereotype and the stereotype of an entrepreneur, which may limit their ability to accumulate the same skills that men can generally accumulate (Ahl & Marlow, 2012; Westhead & Solesvik, 2016). Accordingly there is the need for entrepreneurship educators to ensure that entrepreneurial education is gender sensitive, and it relates to a diverse range of guest speakers, case studies and industry sectors, and it focuses upon critical engagement with entrepreneurship theories that do not solely focus on the personality traits and behaviour of the dominant stereotype of the usually male entrepreneur (Westhead & Solesvik, 2016). Otherwise women keep evaluating their abilities to engage in entrepreneurship as negative and reduce the likelihood of pursuing an entrepreneurial career. Besides that entrepreneurship researchers have found that women, compared with men, not only believe they are less capable of becoming an entrepreneur, but also perceive their

environment to be more difficult and less suitable for entrepreneurial activity (Gupta et al., 2009).

Other actors

Other individual actors in the entrepreneurship ecosystems such as investors, mentors, advisors, and other individuals play a vital role as well. These actors are part of the resource supporting infrastructure in different places and generally considered routinized in their patterns for resource allocation, as such, they are gatekeepers who may prevent or encourage certain types of business formation and development for women (C. Brush et al., 2019b).

Tabel 1 Overview of gendered issues on different levels

Lev el	Construct	Definition	(Gendered) practices	Influence according to literature
I n s ti t u ti o n a l l e v e l	Regulatory Institution	Rules and laws related to costs of setting up a business and policies that impact the desirability and feasibility of entrepreneurship	Women-only networks Women quota	Regulations contribute to the 'othering' of women rather than build gender equality (McAdam et al., 2019)
			Labour market regulations childcare policies	Labour market regulations and childcare policies might enhance women within labour force but have no positive effect on women in entrepreneurship (Thébaud, 2015)
			Enterprise policies	favouring high-tech, high-growth, and export-oriented manufacturing sectors that are typically male dominated contribute to occupational segregation and might push women even further away from entrepreneurial activity (Anna et al., 2000)
	Normative institutions	Determine acceptable roles for men and women based on predominant gender roles	Sex role Stereotyping	Mismatch between female gender role and the entrepreneurial leader role, women try to avoid stereotype threatening areas in order to avoid performing badly (Westhead & Solesvik, 2016) Women might receive less normative support from friends and family (C. Brush et al., 2019)
	Cultural-co gnitive institutions	Cognitive legitimation	Entrepreneurs are social actors operating within prescribed norms	Ascribed gender characteristics deny legitimation of female entrepreneurs (Marlow, 2002) and issue credibility problems (Poggesi et al., 2016) as well as unequal access to resources (Marlow & Patton, 2005)
O r g	Constructi on of division	Horizontal and vertical job segregation	Women are reinforced to engage in low	Contributes to horizontal job segregation (Gupta et al., 2009)

			funding stereotypical industries	
a n i z a t i o n a l l e v e l			Women are less likely to be present in the senior leadership	No opportunity to develop decision-making skills (C. Brush et al., 2019)
	Symbols and images	Reinforces gender division	Successful entrepreneurs are put on a pedestal	Produces a culture of comparison and competition and might intimidate women (Berglund et al., 2018)
			Media representation of entrepreneurs	Celebrate more masculinized images of successful entrepreneurs (Gupta et al., 2009)
	Gendered social structures	Workplace interactions	Hierarchies, decision-makers are mostly male	Women are left out (McGowan et al., 2012) and the hierarchical structures maintain the power of others (C. Brush et al., 2019)
I n d i v i d u a l l e v e l	Entrepreneur	Gender identification	Lack of role models	No fit with the entrepreneurial identity and lack of self-efficacy (Ahl & Marlow, 2012; Westhead & Solesvik, 2016)
	Other actors	Mentors, Investors, Mediators	Act as gatekeepers	Women are systematically excluded, since other actors, particularly resource providers are routinized in their patterns for resource allocation (C. Brush et al., 2019)

Conclusion

The prior theoretical literature review showed that there are several barriers that the entrepreneurial ecosystem can cause, due to its purpose to provide aspiring entrepreneurs with (1) access to resources, (2) opportunity recognition and (3) legitimation. Research has shown that those three processes are essential for successful start-up activity and that several ecosystem attributes are involved and interact with each other (see Figure 1). Researchers have also stressed that especially females face even more barriers due to their gender, since women tend to perceive the ecosystem differently than their male counterparts and ecosystem actors tend to perceive females differently as well. Accordingly the further literature review revealed several gendered barriers that the entrepreneurial ecosystem might produce (see Table 1). This thesis tries to unleash which entrepreneurial ecosystem factors influence female students most and if there are any gender issues, in order to countersteer any possible gender bias and enhance those factors that positively influence their choice to become an entrepreneur, since numbers have shown that female entrepreneurial activity is still lacking behind, which is in eyes of professionals lost potential. Since this thesis is especially concerned about female university students the theoretical review has shown that universities play a vital role in entrepreneurial ecosystems.

Table 2 Overview of gender issues on the 3 entrepreneurial processes

Practice	Women only networks	Sex-role stereotyping and prejudices about women	Horizontal and vertical job segregation	Representation of entrepreneurs	Gender identity
Issue	contribute to the 'othering' of women rather than build gender equality and leads to an information and training gap	society in general connects the definition of women still with the roles connected to family and household	Women keep being pushed into lower pay, skill, and status jobs	Male entrepreneurs do get the most attention from media and are popular cases within entrepreneurial education	areas where the role models are male or have only masculine qualities, women may not perceive that venture creation is feasible
Access to resources	Women cannot reach influential decision makers	non-traditional areas get less financial support than those in traditional business fields	Women don't have the opportunity to develop skills, competencies, and industry knowledge	The predominant picture of young male entrepreneurs might produce gender bias which influences the contribution of resources	lack of fit between their gender identification and the stereotype of an entrepreneur, may limit their ability to accumulate the same skills that men can generally accumulate
Opportunity recognition	Women are denied access to important information	women might receive less normative support from society and a lack of emotional support from their family	Women cannot accumulate the same information necessary for opportunity recognition	Women cannot identify with the male norm of entrepreneurs and therefore do not see a fit	Women may have a greater fear of failure or less confidence in their abilities to start a business, due to a lack of fit
Gaining legitimation	Women-only networks are not taken serious by the more important & more powerful actors within the ecosystem, which are mostly male	mismatch between the female gender role and the entrepreneur leader role, reduces credibility	Women are seen as not capable to be an entrepreneur	male entrepreneurs, particularly when white and middle class, enjoy a cultural hegemony and sense of normalness	Ecosystem actors might also be influenced by the visible role models and see no fit with women and entrepreneurs

Methodology

The aim of this qualitative research is to explore which entrepreneurial ecosystem attributes (see Figure 1) might influence the choice of female students to pursue an entrepreneurial career and discover nuance in the details of possible gendered practices shown in Table 1 and Table 2. Qualitative data collection methods respond to the call within recent female entrepreneurship literature to shift from sampling large scale data sets, which are dominant both in women's and in general entrepreneurship research but inappropriate when explaining real-life phenomena (de Bruin et al., 2007). The more in-depth examinations of under-presented populations, in this case women, will provide a more comprehensive picture of women's entrepreneurship including how the process of entrepreneurship might be constrained by the different factors of the entrepreneurial ecosystem. As a consequence researchers can better understand how to decrease structural barriers and increase participation through the development of long-term strategies that focus on discovering how to prevent gender barriers in the first place, rather than short-term strategies that only focus on existing, more obvious barriers (S. Yousafzai et al., 2019). This exploratory approach seeks for new insights (Saunders, Lewis, & Thornhill, 2012) and a compelling picture of the lives of female students at the University of Twente and the necessity for change.

The different attributes of the entrepreneurial ecosystem and their influence on entrepreneurial activities can be explored through qualitative case studies (Spigel, 2017). Bryman & Bell (2015) state that the aim of a case study is to provide an in-depth explanation of the object of interest and the unique features that it has. This thesis is particularly concerned with the female students of the University of Twente located in Enschede, The Netherlands. The

University of Twente can be considered as an entrepreneurial university as stated in their recent Mission-Vision-Strategy report for 2030. Accordingly, the university's mission is to be the people-first university of technology, empowering the society through sustainable solutions, contributing to a fair, sustainable and digital society. In order to maximise the impact on society until 2030 the university is thriving to become an entrepreneurial, inclusive and open ecosystem[3]. An interview prior to the study with a senior lecturer and researcher (Interviewee 1) at the University of Twente showed that the university offers several obligatory courses on entrepreneurship within several bachelor and master studies at the university. He said that although the male to female ratio within the different studies are pretty balanced, it does not mean that all students are intrinsically motivated to participate, since the courses are mandatory and part of their curriculum. Besides that there is a master program specifically for Entrepreneurship, Innovation and Strategy (short EIS) where students either actually want to start up their own business or want to gain an entrepreneurial mindset. An extracurricular track is the honours program, filled with students who have to proof, that they are actually willing to set up a business, before getting into the course. The interviewee would like to welcome more female students in his honours program, because he feels sorry for the only female in the course. Actually there were not many females participating in the honours track last round, whereas this round there were 6 females out of 16 participants, although there were no specific promotions to attract more female students to participate. The honours course is based on effectuation, which should teach students to don't have a plan, be flexible, not fear risks and spread risks. Besides that students get feedback on their business

---

[3] Retrieved from https://www.utwente.nl/en/organization/about/shaping2030/

ideas, and they will be given as much materials as possible, as many tools as possible for them to develop their business.

This thesis makes use of a life history narrative approach, which is particularly useful for researching women's lives where elements of social, economic, and political activities intertwine and overlay. As a consequence such an approach enables the construction of narratives, which captures the lived experiences (Marlow & Mcadam, 2012). Thus, life history narrative enables a detailed exploration and analysis of how women articulate and experience gender while acting as a high-technology entrepreneur. For the purposes of exploring how the respondents had arrived in their current roles as a (aspiring) high-technology entrepreneur, I asked them to tell their story. This enabled the exploration of their family situation, education, career, and her multiple roles as daughters, mothers, wifes, and sisters. How these roles then complemented or conflicted with her entrepreneurial activities and ambitions.

Sample

Given that women have specific characteristics and circumstances that might strongly impact their ability to engage in entrepreneurial processes within the entrepreneurial ecosystem (de Bruin et al., 2006, 2007) and the growing relevance of student entrepreneurship, a sample of female university students is relevant for this study. With a focus on university-led entrepreneurial ecosystems, this study analysed a sample of female students from different fields of study, attending entrepreneurial universities, as well as former female students, who pursued an entrepreneurial career. The criteria for the selection of female students and female entrepreneurs were based on their gender, their entrepreneurial intentions shown through the

participation in entrepreneurial courses or being active in entrepreneurial activity and their willingness to participate.

Data collection and analysis

In the scope of this thesis 10 interviews were conducted in order to analyse what female university students perceive as influential regarding the choice of becoming an entrepreneur. Prior to data collection, a series of issues was developed to guide the research (see Appendix A - Interview guideline).

As a result of following an interview guideline, the conducted interviews can be compared (David & Sutton, 2004). Topics were chosen to be formulated rather vaguely in order to unravel lived experiences and respond to the complexity and interconnectivity of the ecosystem attributes. Besides that a highly valuable advantage of semi-structured interviews is the freedom to change order and wording during the interview, depending on the direction of the interview (Bryman & Bell, 2015). Respondents were asked probing questions during interviews where appropriate to elaborate upon the key issues identified beforehand and to develop the discussion, and simultaneously maintain a focus on key issues (Saunders et al., 2012). It also made an open nature and a conversational style of questions possible where depth and validity could be encouraged.

All interviews have been recorded using the free Zoom.us recording feature and transcribed verbatim using the application "Express scribe" and then combined with relevant notes and observations to provide the raw data (Zozimo, Jack, & Hamilton, 2017). The analysis of the transcribed interviews was conducted in two phases. The first step consisted of a deductive approach and the transcripts were coded descriptively. While the point of detailed, qualitative enquiry is to produce depth and detail, this presents challenges in drawing out relevant issues

and ordering the material generated. The second phase, an inductive approach, targeted at codes based on the specific aspects in the texts, the most crucial ones will be presented in the next section.

Results

The analysis of the interviews revealed several factors that can be perceived as influential for female students to pursue an entrepreneurial career. However as prior research has confirmed female students have different viewpoints and depending on the different situation they are in, different factors that will be influential to them. Within this research the different viewpoints of female students as well as female entrepreneurs on perceived influential factors, as illustrated in Figure 1 are described and explained. Further perceived influential factors based on gender will showcase the nuances of a gendered entrepreneurship ecosystem, in line with Table 1 and 2.

Influential factors according to the interviewees

The categorization of this chapter is based on the most influential factors. The factors will be explained and highlighted with quotations from the interviews.

Educational choice

Since respondents were asked what they are doing at the moment and how they got to that point, the interviewees talked about their educational choices. Most of the interviewees that participated in entrepreneurial courses were still bachelor students, whereas participants of accelerators were either in their masters and/or employed. Those interviewees, who already had their own company had obtained their masters degree (some time ago) and were to this day involved in their company/ies.

Most of the participants noticed very early on in their study, might it be technical engineering, business IT, psychology or public administration, that they wanted to broaden their knowledge in business.

'But already quite soon, during the end of my first year, I discovered that Public Administration was not the right study for me and that Business Administration was more suitable with my interests and my already existing ambition to start my own company one day.' (Interviewee 2)

According to Interviewee 7, an industrial engineering and management student, who chose to follow the honours course to broaden her knowledge on entrepreneurship because she finds it important to know how to set up a company.

Employment experiences

Mostly for the interviewees with their own business prior employment experiences had a great influence on their decision to become an entrepreneur. Interviewee 2 actually didn't have a lot of work experiences, before starting her own company, nevertheless her weekend and holiday job had a big influence on her decision to become an entrepreneur: her former boss is now her co-founder and co-owner of her company. She even said that she would have never gotten the idea for her company if her former boss didn't encourage her to go for that idea.

Another participant stated the following about her prior work:

I was for 15 years, um, in innovation consultant for small and medium technical businesses before (...) after 12 years (...) the rules changed (...) and I didn't like the way they wanted me to consult, so I started my own firm. (Interviewee 3)

Similar to that Interviewee 10, who mentioned that being employed felt to her like prison, she didn't like the boundaries that were put on her.

'I want to develop things to create things, without any boundaries.' (Interviewee 10)

One of the interviewees, who participated in an entrepreneurial course at university and who was a former designer, said:

'I can barely see my future just being an employee and just to work for others. And sometimes to be a designer is not as free as what I have expected.' (Interviewee 9)

Family and friends

Research has proven that family and friends have a great influence on females entrepreneurial intentions. For most interviewees an entrepreneurial family background had a great influence on their decision to (eventually) pursue an entrepreneurial career.

For Interviewee 3 her family had not only influence on her entrepreneurial intentions. Since her grandfathers were shop owners and her father had a technical background, in that sense that he was one of the first in the Netherlands, working with computers, she decided to study technical and industrial engineering.

According to Interviewee 5 there are complicated economical and political circumstances in Russia, where she was born and raised. People in Russia can't earn high income unless they are self-employed. She told me of her grandmothers, who both were shop owners, and her mom who motivated her to become an entrepreneur, as well as her dad who has his own business. When she was still a kid she asked herself if she wanted to continue what her dad did or start something new, so she decided to do something new.

Whereas most interviewees had some kind of connection with entrepreneurship Interviewee 10 said:

'I always wanted to be an entrepreneur. It was always in my mind, but I'm not from an entrepreneurial family, not at all.' (Interviewee 10)

Culture

Most of the international interviewees mentioned that in their home country the culture is different, but actually does not influence them, or hinder them to do what they want to.

'I come from Russia, a super conservative society and many people think women should stay with a family and have like 10 babies don't go out and everything. But because of my family (which differs from that) I grew up in an ecosystem where I didn't have these boundaries.' (Interviewee 5)

Interviewee 9 who is from China said that, although it is very unusual for Chinese women to start all over again in another country in her thirties, she came to the Netherlands to do exactly that and her family and friends are very supportive and respect her decisions.

'I just focus on my own life, um, I just focus more on my own happiness and the meaning of my life.' (Interviewee 9)

Whereas Interviewee 7, who is a muslim and wears a hijab feels misunderstood by her parents, which is why she doesn't talk much about her business idea.

'And I also noticed that with family, that they're like, well, you're going to get married later, anyway, like, why would you want to start a business? Like just stay at home or something.' (Interviewee 8)

Motivational factors

Whereas those interviewees who attended entrepreneurial courses or participated in accelerator programs saw entrepreneurship more as an option, the actual female business owners were pretty soon pretty certain that they wanted to become an entrepreneur in order to be independent and do things differently.

'I want to be in control. Of course, not that I think it's only me who can do best, those people exist as well. No, it's just, I cannot handle someone else telling me what to do.' (Interviewee 10)

'I have a certain vision and I want to do it in a certain way, I think that's the thing, why I'm an entrepreneur, make a change and make an impact in the world.' (Interviewee 3)

Whereas the female entrepreneurs expressed their motivation to be free and having a positive impact in the world, one of the accelerator participants is amazed by the idea that she could tell a success story of herself in the media.

'But actually that I can be one of these people from, I don't know, from newspapers, from the media, somebody who actually has the company, and this is how it starts, from all these small programs (...) and then you go further with that.' (Interviewee 3)

Inspiration for their business idea

Most of the participants found inspiration from their family and friends for their business idea. Interviewee 4 for example copied a business model, with some modifications she saw in her home country Russia.

'The idea was to open my time cafe. So that's the place where people can go to, uh, not only to eat because it's like it's a cafe, uh, but also to work.' (Interviewee 4)

Entrepreneur Interviewee 6 developed her idea together with her father, who worked as an management consultant for several years. He had a lot of experience and knowledge but could only consult one company at a time. She thought there should be more and wrote her thesis on how to consult as many companies as possible at the same time and a few months later, they founded their company to help manufacturing companies to take the next step in digitalization.

Interviewee 5 got her inspiration from a friend who stayed in Korea for a while, came back and suggested that she should start an online shop for make-up in Russia.

Whereas Interviewee 10, who already found several companies in her life got her first business idea from a real life problem at university. The interviewee wrote reports for companies and the nations research institute, when she noticed that not many students wanted to become an entrepreneur. Business administration students rather focused on getting internships in large companies, like international banks or consultancies. She thought it is a shame and founded a company with two other founders to support student entrepreneurship.

Key challenges

Most interviewees had issues with time, money and finding the right partner for start-up.

Interviewee 5, who participated in an accelerator program, knew what to do, but neither had time nor money and therefore put her business idea on hold.

'After I finished (the accelerator program), I knew what to do. I just needed money. I needed a team and I needed lots of free time. Just like I knew what I wanted to do. I had a website

and everything, so I was paying for domain. I built my own Instagram. (...) People were just mailing me, asking how to buy?' (Interviewee 5)

She also met up with a few investors, nevertheless she decided she wanted to be independent, since investors only see money in their investments and she doesn't want that.

Others were more lucky, Interviewee 2, who found a company together with her former boss, got investments in the form of a business idea, knowledge and money from her former boss.

A more practical example of a key start-up struggle is to get your customer needs right, according to Interviewee 6.

Perceived support from University and the entrepreneurial ecosystem

Former students and now business owners, like Interviewee 2 and Interviewee 6 perceived support from the university by letting them schedule their study around their company.

Interviewee 2 also got in contact with experts in their own fields and helped with legal and financial advice as well as how to enter the market and build a network. Whereas Interviewee 6 had, from a very early stage on, contact with an accelerator, which provided them with funds and supervision.

In general participants of entrepreneurial courses and accelerator programs think there are plenty of possibilities to raise money, they just don't know yet how to make use of them.

'I think there are plenty of opportunities here for now. I just don't know how to use them.' (Interviewee 9)

Interviewee 10 argues that the above mentioned attitude is different from her generation when she had her first start-up 12 years ago.

'I found out everything myself and I did not have any support, but also not in a sideway, they were not really supportive because if you are an entrepreneurial university, you should encourage that.' (Interviewee 10)

She further argues that young entrepreneurs are too comfortable when they think all they need is an investor, she thinks it's better to make money first in order to prove your business idea.

Networks

Interviewees from the entrepreneurship course actually did not participate in any networking events just yet, whereas participants of the accelerator program stayed in contact with people from their season. The interviewed entrepreneurs are mostly involved in some kind of network or took part in networking events.

After Interviewee 3 founded her first own company she has issued several more companies and got in contact with an accelerator on campus. Besides that she attended an investors bootcamp to gather information and also did courses with an accountant company.

'So yeah, you have your own network of people where you can ask different things.' (Interviewee 3)

Perceived gender issues

Although the sample size is rather low, due to the current circumstance of a global pandemic, the interviewees articulated quite a big array of gendered issues that they have experienced, either during participation in university courses, during accelerator programs or experiences made as an actual female entrepreneur in business.

Interviewee 3, business owner of a technology company thinks that there is a difference between male and female entrepreneurs, she talked about her and her business partner,

whereas she tends to be very open and modest, whereas her male counterpart tend to exaggerate. The interviewee also said she had the same experience over and over again where people told her that she is too direct, whereas she said the same thing as her partner but what she said was perceived totally different.

'I think (as a woman in business) you have to be more careful (...) because I think when a woman says something in a certain way, they maybe (perceived to be) more bitchy.' (Interviewee 3)

She got used to it and learned to say things in a different way so it will be received correctly.

'You want to be yourself in one part, but you also have to adjust to what the outside thinks of you.' (Interviewee 3)

In contrast Interviewee 4 argues she never had issues with gender. The interviewee argued that the reason why there are not many female participants in accelerator programs or in entrepreneurship in general is because there are no females in higher positions or female entrepreneurs presented in the media, if so they are negative examples.

'I think because you don't hear a lot about, actually about, women in very high positions. You don't hear about women entrepreneurs.' (Interviewee 4)

Interviewee 5 had a key experience during a hackathon when she was at the age of 18 and the boys within her group assigned her to do the dirty work since she was the only girl. Time passed and the boys got stuck and she solved the problem by taking the lead. She thinks that because girls think that boys will underestimate them, boys will underestimate girls.

'Sometimes I feel that because these girls have these stereotypes inside their heads (...) so they build this situation that they (the boys) don't accept you. And of course they don't accept you because you think that they don't.' (Interviewee 5)

The interviewee 5 also assumes the participation ratio between male and female is accidental and maybe due to missing promotion.

Interviewee 6 who operates in a male dominated business finds that people like to underestimate her and she needs to prove herself more often. Nevertheless she also says she stands out more as a female in a male dominated business and people won't forget her that easily.

'I think if you really want to boost this if you really want to see more female founders, there needs to be a cultural change. That's also with different types of leadership styles. And that's not something everybody's ready for, a lot of people are saying it, but really believing it, very little. So it's a long road to go, but you have to start somewhere.' (Interviewee 6)

Interviewee 7 had an experience during the application for the honours track the interviewee was told that her chances are good to be accepted because she is a female student and she didn't know how to feel about that.

'When I had the interview (for the honours track), the interviewer said something like, there are not very many women applying for this, so it makes your chances bigger that you get accepted.' (Interviewee 7)

Interviewee 8, a participant of the honours program as well knew she will be one of only a few female participants and that it might put some female students off to participate as well.

'It could be the fact that they (other female students) don't like being with a lot of, like, it's a male dominated market. So that could be putting them off or it could be opinions from family and friends.' (Interviewee 8)

Interviewee 10 mentioned that she has to prove herself a little bit more, not specifically because she's a woman, but an introverted person, which does not belong to the entrepreneurial stereotypes, which rather include adverbs like assertiveness and being extrovert.

During the conversation with Interviewee 10 we talked about equal chances for women and that younger generations are convinced that they have all chances men have. She told me that when she started she felt the same but in reality she experiences many times where she was not accepted being a female entrepreneur, especially when dealing with older generations. She said as long as women stay in their field where people think they are good at, they will be fine, but when you jump out of the box you will not be accepted that well.

'I thought that as well when I was younger and I think when you stay in the younger generations, it is like that. But as soon as you have, as you're dealing with older generations, it's totally different. (...) I can give you many examples of where I was not accepted as a woman entrepreneur. As long as you're doing something that people think, women can do very well, for example, working in a hospital or in the caring business or in communication or whatever. No problem. But now for example, I'm in a production environment, totally different.' (Interviewee 10)

Interviewee 10 truly believes that stereotypes about entrepreneurs and business people will dissolve. Nevertheless she points out that most people are not even aware of the fact that they are actually discriminating against females who hold higher positions or are business owners.

'In business, many people expect you to be a man of over 50 years of age, gray hair, getting bold. That's what they expect. I'm not that I'm a woman and I'm younger.' (Interviewee 10)

The interviewee argues that business society is shaped by men for hundreds of years and that it is time to judge females differently and not on male norms. She says females should be equal to men but not the same and people need to accept that.

'So the perception of an entrepreneur is based on a male perception, but females are doing things differently. We don't fight other people, we are looking more for cooperation, with other people, (...) we look for synergies and how we can make things better together. We are equal to men, but we are not the same and that's not a problem, but people have to get used to it that we do things differently. (...) We are getting scored by male, characteristics, we always fail, they have to judge us by maybe general more female characteristics, or maybe just entrepreneurial characteristics, whatever that may be.' (Interviewee 10)

Role models and mentors

Most of the interviewees had role models very close to them, either family or friends.

Interviewee 2 for example found a mentor in her former boss and she learns things from him that she thinks university could never teach her.

Interviewee 5 said her father is her role model, because he's her coach, friend and motivator, but also people who want to change the world for the better with their businesses.

Interviewee 3 thinks there are not many role models in the tech industry. She also never had a mentor because there were no other female tech entrepreneurs older than her and because she thinks that women tend to grow their business in other fields but not in technology.

Overall almost all of the participants agreed that more positive examples of female entrepreneurs will increase the number of female entrepreneurs.

'I think it's good that we have more examples (of female entrepreneurs) in general. I also like it. I think it's good because I think it's very risky, of course, becoming an entrepreneur, it's not very steady. And I think females are not very used to that insecurities and taking that risk, naturally. So I think the more people do it, then the more people are getting used to it and also the other side of the table getting used to it, it will become better. ' (Interviewee 6)

Family obligations

Opinions on possible family obligations were rather mixed, whereas the younger generation of soon to be female entrepreneurs think that having a family will not influence their entrepreneurial ambitions. Those who started their company already said that the lifestyle of an entrepreneur brings quite a few sacrifices.

'(...) being a founder of a company and having these ambitions stresses your private life.' (Interviewee 2)

Against that Interviewee 3 argues that being an entrepreneur makes it easier to have kids because you don't have a boss to ask. Interviewee 10 agrees and adds that it is possible to have a company and a family, but that also depends on where you live. She argues that it should be possible to bring your 3 month old newborn to daycare and people shouldn't judge that.

'I think if you would have children, you make other choices, but it doesn't mean you cannot be an entrepreneur. I think it's even easier because you're more flexible. Um, but then taking care of your children has to be divided more equally. And I think that's where, um, society is a little bit shortcoming. I mean, it's still not divided equally. I think we can learn from Scandinavian countries in Europe, they are doing it way better than in the Netherlands or Germany.' (Interviewee 10)

Nevertheless family obligations might still have an impact on the low numbers of female entrepreneurs and women in higher positions.

'I think family responsibilities are also a very large reason why women are very scared to become an entrepreneur. I think it's a very very big bottleneck.' (Interviewee 6)

Gender issues according to interviewees

In regards to the influence of gender on the three crucial entrepreneurial processes leading to entrepreneurial actions the study showed that gender in fact influences the legitimation process of female entrepreneurs, but not noticeably the access to resources or opportunity recognition. Hereafter the data will be analysed and discussed regarding each process and showcase if and how the interviewees felt a difference because of their gender.

Gender on access to resource endowments

In general younger generations of entrepreneurs or those who are thriving to become one didn't feel that gender had a noticeable effect on their ability to gather necessary resources for their start-up. The reason behind this might be that most of them were already studying subjects like IT or industrial engineering and already felt comfortable in a male dominated field. Those women that actually founded one or even several companies made different

experiences because they had a different approach gathering information or funds when they were still students. Back then the wish for independence and freedom in creation was much higher. Nowadays it is way easier to raise funds or get industry knowledge. Another side effect is gender bias, but in favour for female students, since the call for gender balance gets louder, which might contribute to the othering of women in business rather than gender equality.

Gender on the social arrangements within the entrepreneurial ecosystem and opportunity recognition

Indeed females might receive less normative support from society and a lack of emotional support from their family when stereotypes are reinforced. Most interviewees enjoyed great support from their families, a minority of the interviewees received not that much support, but not due to them being a women, rather because parents didn't see the advantages of entrepreneurship, because they were not used to it. In today's society entrepreneurs become celebrated stars and their success story will be shown in the media. Nevertheless all interviewees agreed that more visible success stories about female entrepreneurs will increase the number of female entrepreneurs. Interviewees told me that there are not many female tech entrepreneurs in their network right now and therefore the female entrepreneurs got leadership and support from intermediaries, who were either male family members or in one case the former boss of one of the interviewee.

Gender on institutional level and the legitimation process

Female entrepreneurs within the sample agreed that people like to underestimate them and need to prove themselves more often. They also think that as a woman in business they were constantly confronted with the male norm of doing things and had to break the stigma on

female entrepreneurs in male-dominated industries several times. All of the interviewees agreed that the norms of how to do business need to be changed in order to make entrepreneurship more attractive to young female students. In regards to supportive public policies only one interviewee expressed that public policy on child care needs to be adjusted to the needs of full-time working women and that society should be supportive of putting newborns into day-care at a very young age already.

Discussion

The data from this study speaks to a central question in entrepreneurship literature: What influences differences between men and women in entrepreneurial activity? Although this study added a gendered lens on entrepreneurship it does not exclude other factors that female students might consider as influential. The aim is to discover nuances in the details of the constructs shown in the theoretical framework on entrepreneurial ecosystems and gender issues on different levels. The first construct is the institutional and cultural beliefs that ideally legitimate, regulate and incentivize entrepreneurship. The second is about the social arrangements within an entrepreneurial ecosystem which should provide new knowledge about opportunities and new technologies. The third is relevant resources needed for new venture creation which are provided by different actors within the entrepreneurial ecosystem. The findings nuance the details of previous research by revealing 13 factors that could be perceived as influencing female students in pursuing an entrepreneurial career. A striking observation is that the female students don't feel that their gender makes any difference but also can't deny that some things in society need to be changed in order to make female entrepreneurs more visible so that female entrepreneurs become part of a new norm. Compared to the female students, the female entrepreneurs do feel a noticeable difference in

their gender in their day-to-day business environment, in which they constantly have to prove themselves as a female entrepreneur. Although the female students or aspiring female entrepreneurs might have no idea that gender bias still exists in real business life, due to their lack of experiences, they seem to see their gender rather as an advantage than disadvantage. It was expected that the female students feel far more gender differences, although they don't, it might be an indicator that gender bias and gender discrimination becomes more and more implicit. One example that gender bias still exists at the University of Twente, is the fact that female students apply for a course and get accepted based on their gender, which is in fact gender bias and might hide the fact that there are not many female students participating, but does not make up for gender equality. Besides this negative experience, female students did not feel especially discriminated towards their gender but mentioned factors that could have a positive influence on their choice pursuing an entrepreneurial career. In the next sections the perceived factors and the perceived influence of gender are discussed further.

Discussion on institutional attributes

The theory explains that institutional attributes in the form of supportive public policies or positive attitude towards entrepreneurship will have a great influence on the legitimation process within the entrepreneurial process (Spigel, 2017). In fact the respondents of this research overall enjoy positive support from their family members. Most of them even have a family with a strong entrepreneurial background, which makes entrepreneurship kind of normal, nothing to be afraid of. On the other hand there is one interviewee who has a muslimic background, who expressed that she is kind of scared becoming an entrepreneur and she doesn't like to talk about her idea with her parents, who think she should become a mother and wife soon. The reinforced cultural belief that she should be focusing on her family

rather than on an entrepreneurial career might influence her decision to actually become an entrepreneur. Nevertheless she also said she gets inspired by people in the media who manage to have a family and a business simultaneously. Especially international students talked about their culture at home but indicated that they don't really care about what other people think of them and rather count on their support from family and friends.

In regards to supportive public policies most of the interviewees had not much to talk about, this might be the case, because most of them might not yet be thinking about those kinds of things, like child care.

Discussion on social arrangements

Networks and social interactions between ecosystem actors are needed to gain new knowledge about opportunities and new technologies as well as obtaining access to financing (Spigel, 2017). The sample in this research consists of experienced female entrepreneurs and inexperienced female students, accordingly they had different experiences in regards to networking during start-up activities. Whereas female entrepreneurs had the opportunity to go to different places to ask different questions, female students think there are a lot of possibilities to ask for help but don't know just yet how to utilize these possibilities. Besides that the female entrepreneurs within the sample had some kind of partner beforehand to which they could stick to during start-up. Those 'mentors' were either family members or people they knew from prior work experience. Not specifically were these people female mentors from their network, because most of them do not even know other female entrepreneurs who could act as a mentor. The same counts for the female students who struggled to name female entrepreneurial role models. They rather got their inspiration from family, friends or social

media, which rather reinforces the glorification of entrepreneurs and reinforces the strong male afflicted picture of an entrepreneur.

Discussion on resource endowments

Relevant resources needed for new venture creation are finance, knowledge, talent, infrastructure and market, which are mostly provided by actors within the entrepreneurial ecosystem (Stam, 2015). Researchers are arguing that the access to resources is critical for female entrepreneurs. This research has shown that since resource endowments are closely related to the social arrangements there is a similar perception for both processes. Female students know there are a lot of possibilities to get in touch with possible resource providers but not quite sure how to find the right partner, or what to expect from them. One student mentioned that it will be hard to find a business partner with enough knowledge. On the other hand the younger female entrepreneurs both already had a business partner and did not really need to search for one, this might also be the case because both didn't want to become an entrepreneur in the first place and got inspired by their business partners they already knew. The two older entrepreneurs had a totally different approach whereas they had to gather all the information themselves and build their own network, with the experiences they made.

Practical recommendations

This study was written to build awareness around female entrepreneurs. Educators, policy makers, employers as well as the general public can use the model of entrepreneurial ecosystems to better understand where female students are located in this ecosystem, and thus provide better support.

In regards to policy it is recommended to develop policies for entrepreneurship support with an underlying basic notion that acknowledges the fact that the business landscape is gendered. Besides that this study suggests to induce special policies and programs which emphasize feminine characteristics related to entrepreneurship, for example include case studies about female entrepreneurs in school curriculum as well as highlighting the success of women entrepreneurs in press and classrooms. Further, this study found that family obligations might be a bottleneck for some females in this case family friendly policies, which allows women to bring their newborns to daycare, as well as a more equally divided child care. This implies that men need to be fully engaged supporters of women entrepreneurs, which increases normative support and cultural desirability of women as entrepreneurs. Such gender-aware policies would help to move on from the goal of gender equality, which implies having the same opportunities, to gender equity, which implies enabling individuals to benefit from opportunities equally and might require equal or different treatment and measures.

University initiatives should aim to enhance entrepreneurial spirit, facilitate the formation of positive beliefs about entrepreneurial career among female students and encourage an attitude that would be encouraging to entrepreneurial intentions development and action consequently.

Since some of the more serious issues stem from societally constructed gender norms, implicit biases, and subjective perceptions of women of being subordinated, everybody is involved. Accordingly another recommendation would be to engage more men into the female entrepreneurship discussion.

Limitations and implications for further research

Although this research has gathered great insights, there are several limitations to this study that can be investigated further for future research. First of all, the research has been only focused on one entrepreneurial university, which is the University of Twente, hence, the differences among students from other entrepreneurial universities have not been investigated. Thus, cross-university as well as cross-country or even cross-continental analysis on this topic in the future may discover distinct results. Secondly, the interviewees were not representative enough of the overall population. A quantitative research design might bring more generalizable results. Thirdly, the timing of the study was rather odd, considering that at the same time a global pandemic was reaching its peak and students as well as the entrepreneurs had to readjust to the fast changing environment. In a time where things were more uncertain than ever before, I could imagine that there could have been a better time to talk about entrepreneurship than in March/April of 2020.

Conclusion

Female entrepreneurship is a very controversial topic, for some maybe too controversial to talk about. Silence on this topic and the controversy that it brings might mean that the issue is not taken seriously or challenged enough. Others might be tired of the pressure put on gender diversity, which in turn means that the present state remains as it is without questioning it. In fact, gender bias is hard to prove, when nobody feels responsible and absolves oneself of being biased. For today's female students societally constructed gender norms and gender bias is often implicit and happens often unconsciously and automatically. Although young aspiring female entrepreneurs think they are free of gender norms and gender bias, grown female

entrepreneurs think differently, who had bad experiences in day-to-day business life. Yes, societal norms have changed in favour of women there is still room for further improvements especially in regard to women in high-tech and science entrepreneurship. Numbers on private companies' board diversity are in line with this thesis and point to women and men both still internalizing persistent cultural biases about gender and entrepreneurs that affect their understanding, decisions and actions consequently. Actually the cultural ascribed characteristics and gender roles within a society hold punishments for people who deviate from culturally expected behavioural patterns or push boundaries. Accordingly, there is a persistent conflict for female leaders and business founders within the process of gaining legitimation. On the one hand if women stay put within the predominant gender norms, women themselves and other actors within the ecosystem may not see women as leaders. On the other hand, if women adopt the norms of a leader and venture creator, they may be punished for being too bossy, too pushy, too ambitious, at the same time society and especially resource providers expect more from female leaders and venture founders than from their male counterpart, especially when they venture into traditionally male fields, like technology.

The approach used in this thesis can be seen as both, an explanatory model for why the entrepreneurial ecosystem is as it is, as well as a visionary model of the way the entrepreneurial ecosystem could be, considering gender equality and and gender equity resulting in improved economic and better socio-economic outcomes overall. Adding the lens of gender creates awareness on how gender plays a role in the entrepreneurial ecosystem creating unconscious barriers for women entrepreneurs in the high-tech industry, by hindering the legitimation process. On the other hand based on the findings of this thesis, key takeaways

include that female entrepreneurship and those who want to become one base their decision whether to become an entrepreneur or not on the following factors: employment experiences, their family and friends, their cultural background and their motivation.

Reference List

Abreu, M., & Grinevich, V. (2016). Gender patterns in academic entrepreneurship. *Journal of Technology Transfer*, *42*(4), 1–32. https://doi.org/10.1007/s10961-016-9543-y

Achtenhagen, L., & Welter, F. (2011). "Surfing on the ironing board" - the representation of women's entrepreneurship in German newspapers. *Entrepreneurship and Regional Development*, *23*(9–10), 763–786. https://doi.org/10.1080/08985626.2010.520338

Acker, J. (1990). Hierarchies, Jobs, Bodies : A Theory of Gendered Organizations. *Gender and Society*, *4*(2), 139–158. Retrieved from https://www.jstor.org/stable/189609

Ahl, H. (2006). Why Research on Women Entrepreneurs Needs New Directions. *Entrepreneurship Theory and Practice*, (1984), 595–621.

Ahl, H., & Marlow, S. (2012). Exploring the dynamics of gender, feminism and entrepreneurship: Advancing debate to escape a dead end? *Organization*, *19*(5), 543–562. https://doi.org/10.1177/1350508412448695

Ahl, H., & Nelson, T. (2015). How policy positions women entrepreneurs: A comparative analysis of state discourse in Sweden and the United States. *Journal of Business Venturing*, *30*(2), 273–291. https://doi.org/10.1016/j.jbusvent.2014.08.002

Anna, A. L., Chandler, G. N., Jansen, E., & Mero, N. P. (2000). Women business owners in traditional and non-traditional industries. *Journal of Business Venturing*, *15*(3), 279–303. https://doi.org/10.1016/S0883-9026(98)00012-3

Audretsch, D. B., & Lehmann, E. E. (2005). Does the knowledge spillover theory of entrepreneurship hold for regions? *Research Policy*, *34*(8), 1191–1202.

https://doi.org/10.1016/j.respol.2005.03.012

Bandura, A. (1977). Self-efficacy: Toward a Unifying Theory of Behavioral Change. *Psychological Review*, *84*(2), 191–215. https://doi.org/10.1007/978-3-319-75361-4

Bell-Masterson, J., & Stangler, D. (2015). Measuring an Entrepreneurial Ecosystem. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2580336

Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, *42*(2), 155–162. https://doi.org/10.1037/h0036215

Berger, E. S. C., & Kuckertz, A. (2016). Female entrepreneurship in startup ecosystems worldwide. *Journal of Business Research*, *69*(11), 5163–5168. https://doi.org/10.1016/j.jbusres.2016.04.098

Berglund, K., Ahl, H., Pettersson, K., & Tillmar, M. (2018). Women's entrepreneurship, neoliberalism and economic justice in the postfeminist era: A discourse analysis of policy change in Sweden. *Gender, Work and Organization*, *25*, 531–556. https://doi.org/10.1111/gwao.12269

Bird, B., & Brush, C. G. (2002). A Gendered Perspective on Organizational Creation. *Entrepreneurship Theory and Practice*, *26*(3), 41–65. https://doi.org/10.1177/104225870202600303

Bogatyreva, K., Edelman, L. F., Manolova, T. S., Osiyevskyy, O., & Shirokova, G. (2019). When do entrepreneurial intentions lead to actions? The role of national culture. *Journal of Business Research*, *96*(November 2018), 309–321. https://doi.org/10.1016/j.jbusres.2018.11.034

Bosma, N., & Kelley, D. (2019). *Global Entrepreneurship Monitor - 2018/2019 Global Report*.

Brown, R., & Mason, C. (2017). Looking inside the spiky bits: a critical review and conceptualisation of entrepreneurial ecosystems. *Small Business Economics*, *49*(1), 11–30. https://doi.org/10.1007/s11187-017-9865-7

Bruni, A., Gherardi, S., & Poggio, B. (2004). Doing gender, doing entrepreneurship: An ethnographic account of intertwined practices.

Gender, Work and Organization, 11(4), 406–429. https://doi.org/10.1111/j.1468-0432.2004.00240.x

Brush, C., Edelman, L. F., Manolova, T., & Welter, F. (2019). A gendered look at entrepreneurship ecosystems. *Small Business Economics, 53,* 393–408. https://doi.org/10.1007/s11187-018-9992-9

Brush, C. G., Ceru, D. J., & Blackburn, R. (2009). Pathways to entrepreneurial growth: The influence of management, marketing, and money. *Business Horizons, 52*(5), 481–491. https://doi.org/10.1016/j.bushor.2009.05.003

Brush, C. G., de Bruin, A., & Welter, F. (2009). A gender-aware framework for women's entrepreneurship. *International Journal of Gender and Entrepreneurship, 1*(1), 8–24. https://doi.org/10.1108/17566260910942318

Brush, C. G., & Greene, P. G. (2016). Closing the Gender Gap in Entrepreneurship: A New Perspective on Policies and Practices. *Organization for Economic Cooperation and Development.*

Brush, C., Greene, P., Balachandra, L., & Davis, A. (2018). The gender gap in venture capital- progress, problems, and perspectives. *Venture Capital, 20*(2), 115–136. https://doi.org/10.1080/13691066.2017.1349266

Bryman, A., & Bell, E. (2015). *Business research methods* (Fourth edi). Retrieved from http://www.oxfordtextbooks.co.uk/orc/brymanbrm4e

Calás, M. B., Smircich, L., & Bourne, K. A. (2009). Extending the boundaries: Reframing "entrepreneurship as social change" through feminist perspectives. *Academy of Management Review, 34*(3), 552–569. https://doi.org/10.5465/AMR.2009.40633597

Cavallo, A., Ghezzi, A., & Balocco, R. (2019). Entrepreneurial ecosystem research: present debates and future directions. *International Entrepreneurship and Management Journal, 15*(4), 1291–1321. https://doi.org/10.1007/s11365-018-0526-3

Clark Muntean, S., & Özkazanç-Pan, B. (2015). A Gender Integrative Theory of Entrepreneurship. *New England Journal of Entrepreneurship, 18*(1), 27–40. https://doi.org/10.5465/ambpp.2014.15508abstract

David, M., & Sutton, C. D. (2004). *Social research: The basics* (Vol. 74). Sage.

de Bruin, A., Brush, C. G., & Welter, F. (2006). Introduction to the special issue: Towards building cumulative knowledge on women's entrepreneurship. *Entrepreneurship: Theory and Practice, 30*(5), 585–593. https://doi.org/10.1111/j.1540-6520.2006.00137.x

de Bruin, A., Brush, C. G., & Welter, F. (2007). Advancing a Framework for Coherent Research on Women's Entrepreneurship. *Entrepreneurship Theory and Practice, 31*(3), 323–339.

Eagly, A. H., & Wood, W. (2016, April 21). Social Role Theory of Sex Differences. *The Wiley Blackwell Encyclopedia of Gender and Sexuality Studies*, pp. 1–3. https://doi.org/doi:10.1002/9781118663219.wbegss183

Elam, A. E., Brush, C. G., Greene, P. G., Baumer, B., Dean, M., & Heavlow, R. (2019). Global Entrepreneurship Monitor - 2018/2019 Women's Entrepreneurship Report. In *Global Entrepreneurship Research Association*. London Business School.

Elfring, T., & Hulsink, W. (2003). Networks in Entrepreneurship: The Case of High-technology Firms. *Small Business Economics, 21*(4), 409–422. https://doi.org/10.1023/A:1026180418357

Entrialgo, M., & Iglesias, V. (2016). The moderating role of entrepreneurship education on the antecedents of entrepreneurial intention. *International Entrepreneurship and Management Journal, 12*(4), 1209–1232. https://doi.org/10.1007/s11365-016-0389-4

Ettl, K., Welter, F., & Achternhagen, L. (2016). *Unternehmerinnen in der Presse.* (249).

European Commission. (2008). *Promotion of Women Innovators and Entrepreneurship. 32*(0).

European Commission. (2013). ENTREPRENEURSHIP 2020 ACTION PLAN - Reigniting the entrepreneurial spirit in Europe. *COM (2012) 795 Final,* (Brussels, 9 January 2013), 1–33. Retrieved from http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012DC

0795&from=EN

European Commission. (2016). Strategic Engagement for Gender Equality 2016-2019. *European Commission*. https://doi.org/10.2838/722771

Fini, R., Grimaldi, R., Marzocchi, G. L., & Sobrero, M. (2009). The Foundation of Entrepreneurial Intention. *Paper Presented at the Summer Conference 2009 on CBS - Copenhagen Business School*, (June 2014), 1–36. https://doi.org/10.1097/QAI.0b013e3181f9c0f7

Foss, L., Henry, C., Ahl, H., & Mikalsen, G. H. (2019). Women's entrepreneurship policy research: a 30-year review of the evidence. *Small Business Economics*, *53*(2), 409–429. https://doi.org/10.1007/s11187-018-9993-8

Giazitzoglu, A., & Down, S. (2017). Performing entrepreneurial masculinity: An ethnographic account. *International Small Business Journal: Researching Entrepreneurship*, *35*(1), 40–60. https://doi.org/10.1177/0266242615599244

Giménez, D., & Calabrò, A. (2018). The salient role of institutions in Women's entrepreneurship: a critical review and agenda for future research. *International Entrepreneurship and Management Journal*, *14*(4), 857–882. https://doi.org/10.1007/s11365-017-0480-5

Global Entrepreneurship Research Association. (2017). *Global Entrepreneurship Monitor - Global Report 2016/17*. 180. Retrieved from http://www.gemconsortium.org/report/49812

Gupta, V. K., Turban, D. B., Wasti, S. A., & Sikdar, A. (2009). The role of gender stereotypes in perception of entrepreneurs and intention to become an entrepreneur. *Entrepreneurship Theory and Practice*, (607), 397–417. https://doi.org/10.1111/j.1540-6520.2011.00460.x

Hechavarría, D. M., & Ingram, A. E. (2019). Entrepreneurial ecosystem conditions and gendered national-level entrepreneurial activity: a 14-year panel study of GEM. *Small Business Economics*, *53*(2), 431–458. https://doi.org/10.1007/s11187-018-9994-7

Henry, C., Foss, L., & Ahl, H. (2016). Gender and entrepreneurship research: A review of methodological approaches*. *International Small Business Journal*,

34(3), 217–241. https://doi.org/10.1177/0266242614549779

Hook, J. L., & Pettit, B. (2016). Reproducing occupational inequality: Motherhood and occupational segregation. *Social Politics, 23*(3), 329–362. https://doi.org/10.1093/sp/jxv004

Hsu, D. K., Burmeister-Lamp, K., Simmons, S. A., Foo, M. Der, Hong, M. C., & Pipes, J. D. (2019). "I know I can, but I don't fit": Perceived fit, self-efficacy, and entrepreneurial intention. *Journal of Business Venturing, 34*(2), 311–326. https://doi.org/10.1016/j.jbusvent.2018.08.004

Hughes, K. D., Jennings, J. E., Brush, C., Carter, S., & Welter, F. (2012). Extending Women's Entrepreneurship Research in New Directions. *Entrepreneurship: Theory and Practice, 36*(3), 429–442. https://doi.org/10.1111/j.1540-6520.2012.00504.x

Isenberg, D. J. (2010). How to start a entrepreneurial revolution. *Harvard Business Review, 88*(6), 40–50. https://doi.org/10.1353/abr.2012.0147

Isenberg, D. J. (2011). The Entrepreneurship Ecosystem Strategy as a New Paradigm for Economic Policy: Principles for Cultivating Entrepreneurships. *The Babson Entrepreneurship Ecosystem Project, 1*(781), 1–13. Retrieved from http://www.wheda.com/uploadedFiles/Website/About_Wheda/Babson Entrepreneurship Ecosystem Project.pdf

Isenberg, D. J. (2014). What an Entrepreneurship Ecosystem Actually Is. *Harvard Business Review.* Retrieved from https://hbr.org/2014/05/what-an-entrepreneurial-ecosystem-actually-is

Jansen, S., van de Zande, T., Brinkkemper, S., Stam, E., & Varma, V. (2015). How education, stimulation, and incubation encourage student entrepreneurship: Observations from MIT, IIIT, and Utrecht University. *International Journal of Management Education, 13*(2), 170–181. https://doi.org/10.1016/j.ijme.2015.03.001

Jennings, J. E., & Brush, C. G. (2013). Research on Women Entrepreneurs : Challenges to (and from) the Broader Entrepreneurship Literature? *Academy of Management Annals, 7*(1), 663–715.

https://doi.org/10.1080/19416520.2013.782190

Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing, 15*(5–6), 411–432. https://doi.org/10.1016/S0883-9026(98)00033-0

Laudano, M. C., Zollo, L., Ciappei, C., & Zampi, V. (2019). Entrepreneurial universities and women entrepreneurship: a cross-cultural study. *Management Decision, 57*(9), 2541–2554. https://doi.org/10.1108/MD-04-2018-0391

Lee, M., & Huang, L. (2018). Gender bias, social impact framing, and evaluation of entrepreneurial ventures. *Organization Science, 29*(1), 1–16. https://doi.org/10.1287/orsc.2017.1172

Lundine, J., Bourgeault, I. L., Clark, J., Heidari, S., & Balabanova, D. (2019). Gender bias in academia. *The Lancet, 393*(10173), 741–743. https://doi.org/10.1016/S0140-6736(19)30281-8

Maes, J., Leroy, H., & Sels, L. (2014). Gender differences in entrepreneurial intentions: A TPB multi-group analysis at factor and indicator level. *European Management Journal, 32*(5), 784–794. https://doi.org/10.1016/j.emj.2014.01.001

Marlow, S. (2002). Women and self-employment. *Entrepreneurship and Innovation*, 83–91.

Marlow, S., & Mcadam, M. (2012). Analyzing the Influence of Gender Upon High-Technology Venturing Within the Context of Business Incubation. *Entrepreneurship: Theory and Practice, 36*(4), 655–676. https://doi.org/10.1111/j.1540-6520.2010.00431.x

Marlow, S., & Mcadam, M. (2015). Incubation or Induction? Gendered Identity Work in the Context of Technology Business Incubation. *Entrepreneurship: Theory and Practice, 39*(4), 791–816. https://doi.org/10.1111/etap.12062

Marlow, S., & McAdam, M. (2013). Gender and entrepreneurship: Advancing debate and challenging myths; exploring the mystery of the under-performing female entrepreneur. *International Journal of Entrepreneurial Behaviour and Research, 19*(1), 114–124.

https://doi.org/10.1108/13552551311299288

Marlow, S., & Swail, J. (2014). Gender, risk and finance: why can't a woman be more like a man? *Entrepreneurship & Regional Development, 26,* 80–96. https://doi.org/10.1080/08985626.2013.860484

Marques, H. (2017). Gender, entrepreneurship and development: which policies matter? *Development Policy Review, 35*(2), 197–228. https://doi.org/10.1111/dpr.12206

Mary George, N., Parida, V., Lahti, T., & Wincent, J. (2016). A systematic literature review of entrepreneurial opportunity recognition: insights on influencing factors. *International Entrepreneurship and Management Journal, 12*(2), 309–350. https://doi.org/10.1007/s11365-014-0347-y

McAdam, M., Harrison, R. T., & Leitch, C. M. (2019). Stories from the field: women's networking as gender capital in entrepreneurial ecosystems. *Small Business Economics, 53*(2), 459–474. https://doi.org/10.1007/s11187-018-9995-6

McGowan, P., Redeker, C. L., Cooper, S. Y., & Greenan, K. (2012). Female entrepreneurship and the management of business and domestic roles: Motivations, expectations and realities. *Entrepreneurship & Regional Development, 24*(1–2), 53–72. https://doi.org/10.1080/08985626.2012.637351

Meyer, V., Tegtmeier, S., & Pakura, S. (2017). Revisited: how gender role stereotypes affect the image of entrepreneurs among young adults. *International Journal of Gender and Entrepreneurship, 9*(4), 319–337. https://doi.org/10.1108/IJGE-07-2017-0031

Miranda, F. J., Chamorro-Mera, A., Rubio, S., & Pérez-Mayo, J. (2017). Academic entrepreneurial intention: the role of gender. *International Journal of Gender and Entrepreneurship, 9*(1), 66–86. https://doi.org/10.1108/09574090910954864

Mueller, S. L., & Dato-On, M. C. (2008). Gender-role orientation as a determinant of entrepreneurial self-efficacy. *Journal of Developmental Entrepreneurship, 13*(1), 3–20. https://doi.org/10.1142/S108494670800082X

Newman, A., Obschonka, M., Schwarz, S., Cohen, M., & Nielsen, I. (2019). Entrepreneurial self-efficacy: A systematic review of the literature on its

theoretical foundations, measurement, antecedents, and outcomes, and an agenda for future research. *Journal of Vocational Behavior, 110*, 403–419. https://doi.org/10.1016/j.jvb.2018.05.012

O'Brien, E., M. Cooney, T., & Blenker, P. (2019). Expanding university entrepreneurial ecosystems to under-represented communities. *Journal of Entrepreneurship and Public Policy*, 8(3), 384–407. https://doi.org/10.1108/JEPP-03-2019-0025

Ozkazanc-Pan, B., & Clark Muntean, S. (2018). Networking towards (in)equality: Women entrepreneurs in technology. *Gender, Work and Organization, 25*(4), 379–400. https://doi.org/10.1111/gwao.12225

Park, J. S. (2005). Opportunity recognition and product innovation in entrepreneurial hi-tech start-ups: A new perspective and supporting case study. *Technovation*, 25(7), 739–752. https://doi.org/10.1016/j.technovation.2004.01.006

Poggesi, S., Mari, M., & De Vita, L. (2016). What's new in female entrepreneurship research? Answers from the literature. *International Entrepreneurship and Management Journal*, 12(3), 735–764. https://doi.org/10.1007/s11365-015-0364-5

Rauth Bhardwaj, B. (2014). Impact of education and training on performance of women entrepreneurs: A study in emerging market context. *Journal of Entrepreneurship in Emerging Economies*, 6(1), 38–52. https://doi.org/10.1108/JEEE-05-2013-0014

Rosique-Blasco, M., Madrid-Guijarro, A., & García-Pérez-de-Lema, D. (2018). The effects of personal abilities and self-efficacy on entrepreneurial intentions. *International Entrepreneurship and Management Journal, 14*(4), 1025–1052. https://doi.org/10.1007/s11365-017-0469-0

Rubio-Bañón, A., & Esteban-Lloret, N. (2016). Cultural factors and gender role in female entrepreneurship. *Suma de Negocios*, 7, 4–12. https://doi.org/10.1016/j.sumneg.2015.12.002

Santos, F. J., Roomi, M. A., & Liñán, F. (2016). About Gender Differences and the Social Environment in the Development of Entrepreneurial Intentions.

Journal of Small Business Management, *54*(1), 49–66. https://doi.org/10.1111/jsbm.12129

Santos, G., Marques, C. S., & Ferreira, J. J. M. (2018). What are the antecedents of women's entrepreneurial orientation? *International Entrepreneurship and Management Journal, 14*(4), 807–821. https://doi.org/10.1007/s11365-017-0481-4

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2012). *Research methods for business students* (6th ed.). Retrieved from http://www.dawsonera.com/depp/reader/protected/external/AbstractView/S9780273750802

Schein, V. E., & Mueller, R. (1992). Sex Role Stereotyping and Requisite Management Characteristics : A Cross Cultural Look Linked references are available on JSTOR for this article : Sex role stereotyping and requisite management characteristics : A cross cultural look. *Journal of Organizational Behavior, 13*(5), 439–447.

Schumpeter, J. A. (1934). The theory of economic development; an inquiry into profits, capital, credit, interest, and the business cycle. In *Harvard economic studies.* Cambridge, Mass. SE - xii, 255 pages 23 cm.: Harvard University Press.

Shelley, T. O. C., Morabito, M. S., & Tobin-Gurley, J. (2011). Gendered institutions and gender roles: Understanding the experiences of women in policing. *Criminal Justice Studies, 24*(4), 351–367. https://doi.org/10.1080/1478601X.2011.625698

Shinnar, R. S., Hsu, D. K., & Powell, B. C. (2014). Self-efficacy, entrepreneurial intentions, and gender: Assessing the impact of entrepreneurship education longitudinally. *International Journal of Management Education, 12*(3), 561–570. https://doi.org/10.1016/j.ijme.2014.09.005

Shinnar, R. S., Hsu, D. K., Powell, B. C., & Zhou, H. (2017). Entrepreneurial intentions and start-ups: Are women or men more likely to enact their intentions? *International Small Business Journal,* 026624261770427. https://doi.org/10.1177/0266242617704277

Spigel, B. (2017). The Relational Organization of Entrepreneurial Ecosystems. *Entrepreneurship: Theory and Practice*, *41*(1), 49–72. https://doi.org/10.1111/etap.12167

Stam, E. (2015). Entrepreneurial Ecosystems and Regional Policy: A Sympathetic Critique. *European Planning Studies*, *23*(9), 1759–1769. https://doi.org/10.1080/09654313.2015.1061484

Stam, E., & van de Ven, A. (2019). Entrepreneurial ecosystem elements. *Small Business Economics*, (June). https://doi.org/10.1007/s11187-019-00270-6

Terjesen, S. (2016). Conditions for high-potential female entrepreneurship. *IZA World of Labor*, (April), 1–11. https://doi.org/10.15185/izawol.255

Thébaud, S. (2015). Business as Plan B. *Administrative Science Quarterly*, *60*(4), 671–711. https://doi.org/10.1177/0001839215591627

Tuunainen, J. (2005). Contesting a hybrid firm at a traditional university. In *Social Studies of Science* (Vol. 35). https://doi.org/10.1177/0306312705047825

Verheul, I., Carree, M., & Thurik, R. (2009). Allocation and productivity of time in new ventures of female and male entrepreneurs. *Small Business Economics*, *33*(3), 273–291. https://doi.org/10.1007/s11187-009-9174-x

WEF. (2014). Entrepreneurial Ecosystems Growth Dynamics – the Early-Stage Company Around the Globe and Entrepreneur's Perspective. In *World Economic Forum*.

Welter, F., Brush, C., & de Bruin, A. (2014). The Gendering Of Entrepreneurship Context. *Institut Für Mittelstandsforschung Bonn*, *9*(July), 1–23. https://doi.org/10.4337/9781788119474.00020

Westhead, P., & Solesvik, M. Z. (2016). Entrepreneurship education and entrepreneurial intention: Do female students benefit? *International Small Business Journal: Researching Entrepreneurship*, *34*(8), 979–1003. https://doi.org/10.1177/0266242615612534

Wright, M., Siegel, D. S., & Mustar, P. (2017). An emerging ecosystem for student start-ups. *Journal of Technology Transfer*, *42*(4), 909–922. https://doi.org/10.1007/s10961-017-9558-z

Yadav, V., & Unni, J. (2016). Women entrepreneurship: research review and future directions. *Journal of Global Entrepreneurship Research*, *6*(1), 12. https://doi.org/10.1186/s40497-016-0055-x

Yang, T., & Aldrich, H. E. (2014). Who's the Boss? Explaining Gender Inequality in Entrepreneurial Teams. *American Sociological Review*, *79*(2), 303–327. https://doi.org/10.1177/0003122414524207

Yousafzai, S., Fayolle, A., Saeed, S., Henry, C., & Lindgreen, A. (2019). The contextual embeddedness of women's entrepreneurship: towards a more informed research agenda. *Entrepreneurship and Regional Development*, *31*(3–4), 167–177. https://doi.org/10.1080/08985626.2018.1551786

Yousafzai, S. Y., Saeed, S., & Muffatto, M. (2015). Institutional Theory and Contextual Embeddedness of Women's Entrepreneurial Leadership: Evidence from 92 Countries. *Journal of Small Business Management*, *53*(3), 587–604. https://doi.org/10.1111/jsbm.12179

Zozimo, R., Jack, S., & Hamilton, E. (2017). Entrepreneurial learning from observing role models. *Entrepreneurship and Regional Development*, *29*(9–10), 889–911. https://doi.org/10.1080/08985626.2017.1376518

Appendix

Appendix A - Interview guideline

Introduction of the interview

Introduction of myself

Goal of the study: I would like to understand the experiences, feelings and meanings female students of the UT have about entrepreneurship and the entrepreneurial ecosystem surrounding them. With this understanding I would like to gather insights in factors that influence female students' choice to pursue a career as an entrepreneur. It is very important

that you talk about your own individual perceptions and experiences. There is no "objective truth" here, but only experiences, perceptions and stories.

Anonymity: Do you mind if the interview is recorded? The interview is confidential, and the records will only be used for the purpose of this study. No names will be mentioned in the finale report.

Time frame: This interview will take between 30 minutes and 1 hour.

Before we start the interview, do you have any questions beforehand? If you have any questions during the interview or something is unclear, please do not hesitate to ask.

Issues framing the discussion

1. Introduction of the interview partner

2. Education choices and family influences/background

3. Employment decisions and experiences

4. Developing the business idea

5. Opinions, support and influence; of family and friends, fellow students regarding new venture creation

6. Perceived support from university (Finance, Knowledge, Talent, Market, Networks, Intermediaries, Leadership, Supportive culture)

7. Key challenges during start-up – business related, managerial, domestic, financial

8. Influences, impact and illustrations of gendered expectations, behaviours, challenges associated with (high-tech) entrepreneurship

9. Networking, support, mentoring, gender and entrepreneurship, role models

10. Impact of family responsibilities and expectations upon business growth and ambitions

Ending

Before we end this interview, is there anything that you have not shared yet but really want to? Are there factors that are not discussed but do influence your decision about your future? I do have one last question; do you have any contact information of fellow students who I could contact to interview as well.

Thank you very much for your time and energy in providing me with this information. As stated, before the results are confidential and completely anonymous.