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**ATHENA IN THE ARENA:
GENDER IN THE STARTUP CONTEXT**

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"Coisa boa com coisa boa só pode dar coisa boa."

(Keller, ∞)

Resumo

Níveis elevados de empreendedorismo explicam altos níveis de inovação, emprego e desenvolvimento, e as nações com altos níveis de atividade empreendedora feminina têm um crescimento mais sustentável. Se o crescimento econômico é condição para o desenvolvimento de uma nação, as startups, que são negócios voltados para o crescimento, têm um papel importante nesse desenvolvimento. No entanto, os estudos envolvendo empreendimentos orientados para alto crescimento liderados por mulheres são esparsos. Essa lacuna exige mais pesquisas, especialmente para identificar quais são os principais obstáculos enfrentados pelas mulheres empreendedoras na perspectiva de startups orientadas para o crescimento. Portanto, este estudo propõe uma estrutura de pesquisa sintetizada sobre gênero no contexto de startups e identificar estratégias e caminhos que as mulheres empreendedoras seguem para superar obstáculos, a partir das seguintes questões de pesquisa: 1) quais são os principais obstáculos enfrentados pelas mulheres empreendedoras, especialmente na perspectiva de startups voltadas para o crescimento? 2) como as barreiras baseadas em fatores internos e externos se relacionam ao processo de criação de um empreendimento de alto crescimento, identificando, na percepção das mulheres fundadoras de startups, como essas barreiras funcionam e podem ser superadas no processo empreendedor? Para possibilitar esta pesquisa, dissertação está será organizada no formato de dois artigos. O primeiro artigo tem como objetivo delinear os temas de pesquisa encontrados no âmbito de mulheres e startups, a partir de uma revisão sistemática da literatura sobre o assunto, que pretende tangibilizar o escopo desta pesquisa e agrupar as informações para perceber confluências entre os resultados encontrados. O segundo artigo analisa, a partir do framework proposto no primeiro artigo, como fatores internos e externos se relacionam com o processo de criação de um empreendimento de alto crescimento, identificando, na percepção de mulheres fundadoras de startups, como essas barreiras funcionam e podem ser superadas no processo empreendedor, questão que surgiu a partir da revisão sistemática da literatura, aprofundando o escopo desta pesquisa. O objetivo do segundo estudo é elucidar as características das dimensões na percepção de mulheres fundadoras de startups, além de apresentar um conjunto de estratégias que estas empreendedoras de alto crescimento utilizam para superar essas barreiras identificadas nas dimensões.

Palavras-chave: gênero, mulher, empreendedorismo, startups, novas empresas, orientação ao crescimento.

Abstract

High levels of entrepreneurship explain high levels of innovation, employment and development, and nations with high levels of female entrepreneurial activity have more sustainable growth. If economic growth is a condition for the development of a nation, startups, which are businesses focused on growth, play an important role in this development. However, studies involving women-led high-growth ventures are sparse. This gap requires further research, especially to identify the main obstacles faced by women entrepreneurs from the perspective of growth-oriented startups. Therefore, this study proposes a synthesized research framework on gender in the context of startups and to identify strategies and paths that women entrepreneurs follow to overcome obstacles, based on the following research questions: 1) what are the major obstacles faced by entrepreneurial women, especially in the growth-oriented startup perspective? 2) how barriers based on individual and external factors relate to the process of creating a high-growth venture, identifying, on the perception of women startup-founders, how these barriers work and can be overcome in the entrepreneurial process? To make this research possible, the master thesis will be organized in the format of two articles. The first article aims to outline the research themes found in the scope of women and startups, based on a systematic review of the literature on the subject, which aims to make the scope of this research tangible and group the information to perceive confluences between the results found. The second article analyzes, from the framework proposed in the first article, how individual and external factors relate to the process of creating a high-growth enterprise, identifying, in the perception of women founders of startups, how these barriers work and can be overcome in the entrepreneurial process, an issue that emerged from the systematic review of the literature, deepening the scope of this research. The objective of the second study is to elucidate the characteristics of the dimensions in the perception of women founders of startups, in addition to presenting a set of strategies that these high-growth entrepreneurs use to overcome these barriers identified in the dimensions.

Keywords: gender, women, female, entrepreneurship, startups, new ventures, growth-orientation.

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“It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat.”

Theodore Roosevelt

Master Thesis Introduction

Widely known for its vast use in motivational aspects, Theodore Roosevelt's speech "Man in the Arena" is a snippet of a larger lecture, offered in 1910 at the Sorbonne, in Paris¹. In the entrepreneurial context, the Arena has a metaphorical correlation with the entrepreneurial struggles, a space to fight competitors, wrong decisions, failures, inertia, fear. Only by getting into the Arena a person can truly become an entrepreneur. A century has passed, and a lot has changed in the economy. The entrepreneurial life, however, no matter how big or small the venture, is still often represented as a fight for the fittest or a duel to see which company will become the winner of its field. The challenges are constant, and the battle between competitors occurs daily, no matter the market in which they operate.

In this new century, the Arena is technological and knowledge-oriented (Audretsch, 2019). Technological change is a driving force for economic growth (Antonelli & Feder, 2020), and a new type of venture, called startup, has united knowledge, technology and focus on growth, raising hopes of "increasing innovation and accelerating economic growth, especially in developed countries" (Skala, 2019, p. 2). Their business models are based on fast growth ambitions (Breschi et al., 2018) and have four main characteristics: young age and limited resources, innovation-driven, focused on development and scalability and operate in the digital industry, ICT, or technology sectors (Skala, 2019).

A startup, in this sense, relates to the moment in the life of a company where a team seeks to develop an innovative, technology-based product or service that has an easily replicable business model and that can scale up without an increase in costs. Among the main characteristics that differentiate and define a startup, stand out innovation, scalability, repeatability, flexibility, and speed (AbStartups, 2017).

¹ For more information, see: World Future Fund. Man in The Arena Speech by Theodore Roosevelt. Retrieved December 1, 2019, from <http://www.worldfuturefund.org/Documents/maninarena.htm>.

Aside from the Men in the Arena, there are also Women in the Arena. Although they occupy the same space, they do not have access to the same resources, or even face the same adversaries. Female entrepreneurs not only have to constantly battle cultural barriers imposed on their gender (Ughetto et al., 2020), but also need to fight a daily struggle with their psychosocial characteristics, as they are constantly and intrinsically affected by external factors. Being a woman directly affects the way they run their business and their levels of growth (Jennings & Brush, 2013; Gupta et al., 2019). It's not enough to be a gladiator in the Arena in this case; they must become goddesses of wisdom, innovation, and warfare - **Athenas in the Arena** - to overcome these disparities.

Women experience a negative impact on funding, financing and investment in startups (Manolova et al., 2007; Bigelow et al., 2012; Alsos and Ljunggren, 2017; Shukla et al., 2018), have smaller networks related to business (Wing-Fai, 2016, Xie and Lv, 2016, Alakaleek and Cooper, 2018), have their feminine characteristics underestimated (Manolova et al., 2007; Bigelow et al., 2012; Martin et al., 2015; Thébaud et al., 2015; Wing-Fai, 2016; Edelman et al., 2018; Guzman and Kacperczyk, 2019) and are seen as less capable than men to be leaders (Yang et al., 2020). They are also perceived as having lower ambition for growth (Aernoudt & De San José, 2020; Kwapisz & Hechavarría, 2018; Balachandra et al., 2019), as being more risk averse (Verheul & Thurik, 2001; Lins & Lutz, 2016; Shukla et al., 2018; Yacus et al., 2019; Ewens & Townsend, 2020; Gimenez-Jimenez et al, 2020), and as having lower tolerance towards taking riskier decisions than men (BarNir, 2012; Giotopoulos et al. 2017; Kee & Rahman, 2018; Kwapisz & Hechavarría, 2018; Xie & Lv, 2018; Yang et al., 2021).

Although there is significant research about differences between male and female entrepreneurs, Brush et al. (2019, pg. 394) indicate that “substantial evidence that women entrepreneurs’ participation, access to resources, and outcomes in ecosystems vary from those of men”. Not only our knowledge about high-growth ventures is scarce, but also there is not a

well structured correlation between gender and growth-oriented entrepreneurship (Giotopoulos et al., 2017). Facing this, studies that provide further knowledge and documentation about these differences are fundamental. What are the major obstacles faced by entrepreneurial women, especially in the growth-oriented startup perspective? How do these barriers relate to the process of creating a high-growth venture?

In order to add to the theoretical point of view on the topic of gender in the startup context, this study's **main objective is to identify the major obstacles faced by entrepreneurial women in the growth-oriented startup perspective.**

Therefore, the following specific objectives are:

- a. To propose a synthesized research framework about gender in the startup context;
- b. To analyze how barriers affect the development of startups founded by women;
- c. To identify, on the perception of women startup-founders, how these barriers affect their entrepreneurial process;
- d. To describe strategies women startup-founders use to overcome these barriers.

Considering the relationship of innovation and economic development and startups and innovation, is pivotal to have a clear scope of the challenges faced by women in the entrepreneurial context in order to bridge the gap between what is the current situation and a more diverse setting for nations with a higher quality of entrepreneurship (Verheul et al., 2006). Despite the slowly rising research on the gendered aspects of high-growth entrepreneurship, there is relatively little scholarly research that has integrated dimensions of the barriers female entrepreneurs face when developing a high-growth oriented venture.

Therefore, to achieve the aforementioned objectives, this research is organized in the format of two articles: the first article is entitled *Athena in the Arena: A Systematic Review About Gender and Startups*, and the second article is called *Athena in The Arena: Key Factors*

Restricting Female Startup Growth. Both papers seek to understand the general and specific objectives of this master thesis, reducing the gap in the literature. Each paper will be presented in the next paragraphs.

The first article, *Athena in the Arena: A Systematic Review About Gender and Startups*, aims to outline existing research within the scope of women and startups, based on a systematic literature review on these topics. This study contributes to the understanding of the gender perspective inside the startup entrepreneurial context.

The strategy to better understand this scenario was to carry out a systematic literature review with articles published in the Scopus and Web of Science databases up to May 2021. The keywords used were “gender”, “female” and “women”, each correlated with “startup*”, “start-up*” and “new venture*”, and then the search term “innovation” was applied to the results. Only articles written in English from journals classified Q1 and Q2 were included, taking 217 articles for further analysis. Of these, titles and abstracts were read, and articles that clearly did not focus on high-growth companies were excluded. Then, from the 76 articles considered eligible for full analysis, 33 were excluded, as they did not have high-growth companies as their object of study, leaving 43 articles selected for a complete analysis.

After defining the articles included in this research, it was possible to establish categories that reflect what was researched about women and high-growth entrepreneurship, and seven recurring themes were conceptualized. Noticeably, all articles investigate barriers faced by women in the entrepreneurial context, even if the search was not directly related to the term. Barriers were not the purpose of the study, but a persistent theme. Grounded in the observation of the recurring categories (Juma & Serqueira, 2016), a framework of analysis of these categories was proposed. Correlating them, these categories become dimensions of the barriers encountered by women on their path to developing high-growth companies, and reflect two paths: individual factors and external factors (Juma & Serqueira, 2016; Neill et al., 2017;

Del Bosco et al., 2019; Cerqueti et al., 2020; Audretsch et al., 2020a). In this research, individual factors are ambition profile, risk predisposition, leadership capability and network characteristics, and external factors are funding and financing, homophily and gender bias.

It is expected that the proposed framework can help in the development of strategies to resolve or reduce these setbacks in the female entrepreneurial process. Female entrepreneurs have to build up and develop individual factors and overcome external factors, as both influence venture's performance, while also interfering in other dimensions. In the consolidation of this framework, it is expected that it enables the mapping of strategies and policies to reduce these barriers and help navigate more effortlessly in the way of venture success.

Based on the structure proposed in the first article, it was sought to deepen each identified dimension in a second article. The theoretical fundamentation followed the “innovative entrepreneur” central to the dynamics of capitalism (Schumpeter, 1942), defined as the “stereotype” of an individual who has an idea and who, with some work, manages to change the economic scenario. These innovative entrepreneurs are described as “market makers” (Casson, 2005), capable of detecting entrepreneurial opportunities defined as “market novelties” (Dahlqvist & Wiklund, 2012). If characteristics given as masculine are often associated with the role of an entrepreneur (Manolova et al., 2007; Bigelow et al., 2012; Edelman et al., 2018; Balachandra et al., 2019), then what does it mean to be a woman within this context? And how do the female entrepreneurs in the startup context perceive and overlap these barriers encountered in the first paper?

The second paper, *Athena in The Arena: Key Factors Restricting Female Startup Growth*, seeks to analyze how individual and external factors relate to the process of creating a high-growth venture, identifying, on the perception of women startup-founders, how these barriers work and can be overcome in the entrepreneurial process. The aim of this second

study is to propose a set of strategies for women entrepreneurs of high-growth ventures to overcome these barriers identified in the dimensions.

In order to achieve this objective, this paper presents the results from an exploratory, qualitative research conducted with eight Brazilian female startup-founders, and was conducted using semi-structured in-depth interviews over a two month period. The questions focused on deepening the understanding of the barriers identified in the first article of this master thesis. These entrepreneurs were located in different states of Brazil, and their startups were from different markets.

The responses were mapped inside the dimensions and afterwards conceptualized, followed by a correlation with authors who corroborated or contradicted what was said by the interviewees. Then, a discussion was presented about the dimensions of the barriers from the framework as they are viewed by the female startup-founders interviewed by this study. Based on what was identified, the results showed the characteristics of the dimensions that compose the framework and outlined a series of strategies that can help women in creating and growing a startup.

Women entrepreneurs are impacted by these analyzed dimensions in different ways. Right from the start, the development of technology companies focused on innovation is predominantly done by men (Hampton et al., 2009; Shukla et al., 2018), and, since there are fewer women in these areas and, when they manage to access them, their feminine characteristics are underestimated (Manolova et al., 2007; Bigelow et al., 2012; Martin et al., 2015; Thébaud et al., 2015; Wing-Fai, 2016; Edelman et al., 2018; Guzman & Kacperczyk, 2019).

The results show that, although women have growth ambitions, they are affected by a lack of credibility that undermines their confidence to persist in entrepreneurship and their self-confidence, which impacts the way they make decisions. Women ponder decisions more, as a

product of social construction, so their risks are more calculated. Female leaders have a greater sensitivity of noticing nuances that makes the employees feel more welcomed, though they need to perceive and set clear boundaries not to fall in a negative situation. In addition, female entrepreneurs lack access to startup ecosystems and networking spaces, thus having less experience in networking. And, as fewer women participate in the high-growth scenario, there are fewer possibilities for connections with other women. Gender bias also influences investment in female-founded startups, as there is a veiled discrimination, what can cause women to give up on the entrepreneurial process. From misinterpreted invitations to actual situations of sexual abuse, gender bias impacts women's self-esteem, leaving them a greater path of acceptance and affirmation than men.

This second paper contributes to the literature on entrepreneurship by promoting the expansion of the knowledge about these barriers, identifying how they affect female startup entrepreneurs, and presenting objectively their strategies to overcome them. If they are not clear and understandable, then it is not possible to get through them. Women have to become aware of these situations that impact so much in their way to develop a high-growth venture, and which, although felt in the everyday life of the female entrepreneur, are not always evidently noticed, as seen in the interviews. By acknowledging this setting, women can learn strategies from each other in their path of high-growth entrepreneurial development.

Both papers developed in this master thesis seek to answer the objectives aforementioned and to fill the gaps identified in the literature. Table 1 shows a summarized presentation of each paper.

Table 1*Papers Presentation*

	Paper 1	Paper 2
Title	Athena in the Arena: A Systematic Review About Gender and Startups	Athena in The Arena: Key Factors Restricting Female Startup Growth
Objective	Outline existing research within the scope of women and startups.	Analyze how individual and external factors relate to the process of creating a high-growth venture.
Method	Systematic literature review with articles published in the Scopus and Web of Science databases up to May 2021, analyzing 43 articles.	Exploratory, qualitative research conducted with eight Brazilian female startup-founders, using semi-structured in-depth interviews over a two month period.
Contribution	Proposition of a framework conceptualizing dimensions of the barriers encountered by women on their path to developing high-growth ventures.	Proposition of a set of strategies for women startup-entrepreneurs to overcome barriers to high-growth entrepreneurship.

Next, the first and the second articles are presented, followed by the master thesis general conclusion.

1st Article:

Athena in the Arena: A Systematic Review About Gender and Startups

Abstract

Elevated levels of entrepreneurship explain high levels of innovation, employment, and development, and nations with high levels of female entrepreneurial activity have a more sustainable growth. If economic growth is a condition for the development of a nation, startups, which are growth-oriented businesses, play a big part in this development. Nevertheless, the studies involving high-growth oriented ventures led by women are sparse. Such gap calls for further research, especially to identify *what are the major obstacles faced by entrepreneurial women in the growth-oriented startup perspective*. Therefore, this systematic literature review proposes to map the research about women and startups, presenting a synthesized framework about barriers faced by female entrepreneurs in their way to high-growth entrepreneurship. The results firstly cover bibliometric information, a conceptualization about the differences between traditional firms and firms focused on high growth within these analyzed articles, and also how gender is approached in these studies. Next, seven key dimensions found recurrently in the analyzed papers are presented, followed by a framework that demonstrates their relationship and a table that shows the correlations between all individual and external dimensions. This study contributes to the understanding of the gender perspective inside the startup entrepreneurial context by providing a structured framework to analyze the barriers faced by women entrepreneurs in their way to create and develop high-growth ventures. As women face various barriers to high-growth entrepreneurship, different strategies are needed to achieve venture success.

Keywords: gender, women, female, entrepreneurship, startups, new ventures.

1. Introduction

The concepts of entrepreneurship and economic growth are closely connected, since the entrepreneurial function is a vital component in the process of economic growth (Schumpeter, 1942; Baumol, 1968; Acs & Amorós, 2008; Acs et al., 2008; Autio et al., 2014; Audretsch, 2018), and the economic growth is a key factor both in economic policymaking and in economic research (Acs & Szerb, 2007; Wennekers & Thurik, 1999, Wong et al, 2005; Audretsch, 2018; Audretsch et al., 2020b). If economic growth is a condition for the development of a nation, startups, which are growth-oriented businesses, play a big part in this development (Audretsch, 2018; Audretsch et al., 2020b; Kee & Rahman, 2020). Audretsch et al. (2020b) indicate that, as the importance of new ventures to innovation, employment and economic growth become more acknowledged, there is a need for refinement in theoretical approaches in the research agenda, especially involving startups.

Although the term “startup” still has an overly broad definition from an academic point of view, the expression gained widespread entrepreneurial notoriety through authors such as Steve Blank, Eric Ries and Paul Graham² at the beginning of the 2010s. These entrepreneurs sought to promote the development of a specific type of new ventures, which are especially oriented towards fast progress and high growth, and infer that “startups” main difference in relation to common new ventures is their focus on new, innovative, scalable, and repeatable business models that are designed to reach new markets and new products with an utterly fast velocity (Skala, 2019). From an academic research perspective, it is difficult to differentiate the term, as it can be used to refer to any firm in its initial stage (as one can use the word literally: to start something), or it can refer to these kinds of firms that Blank, Ries and Graham address (Skala, 2019).

² Steve Blank is an entrepreneur, professor and famous author, known for the creation of the customer development method that launched the lean startup movement, later popularized by Eric Ries. Paul Graham is an entrepreneur and investor, founder of Y Combinator, the first and one of the largest incubators of the world.

Audretsch et al. (2020b) explain that there is a heterogeneity in the understanding of the term “innovative startup”, as researchers and policymakers use different criteria to determine what startups are and how they act. In their recent paper, they identified six different approaches to startup definition, after having analyzed 39 policies from different countries: new firms (as the Schumpeterian sense, in general, implies innovation); self-declaration (as the startup itself declares that is innovation-driven); sector-specific (as the firm is part of high-tech sectors typically or relevant sectors for the Nation); growth-oriented (as in a hypercompetitive context, growth orientation or scalability are almost synonymous with innovation); certification (as an official recognition is given by the Nation); or partner-specific (as in affiliation to strategic innovative firms) (Audretsch et al., 2020b).

Elevated levels of entrepreneurship explain high levels of innovation, employment, and development (Schumpeter, 1942; Baumol, 2002). Correlatively, nations with high levels of female entrepreneurial activity have a more sustainable growth (Nissan et al., 2012, Kamberidou, 2020) and are more resilient to financial crises and experience economic slowdowns less frequently (GEM, 2016, Verheul et al., 2006). This happens because of the diverse entrepreneurial activity that helps in employment and wealth creation, and also because of the possible higher quality of entrepreneurship (Verheul et al., 2006).

Despite this perspective, and even though roughly half of the world’s population is female³, women are lagging behind men in relation to the number and size of the businesses they own, as well as their access to economic resources (Meunier et al., 2017; Bullough et al., 2019). The involvement in the creation of high-growth, innovation- and technology-based ventures is not reflected equally across gender lines (Ranga & Etzkowitz, 2010, Wheadon & Duval-Couetil, 2019; Hechavarria et al., 2019). These women enter the entrepreneurial

³ More specifically, “globally in 2017 the share of women in the world was 49.6%”, from <https://ourworldindata.org/gender-ratio>.

universe (the Arena) with fewer resources than men, and must face invisible (yet, not intangible) barriers, causing deleterious effects on their path to success. They have to become Athenas in the Arena, after the Greek goddess of wisdom, innovation and warfare (Etzkowitz, 2007), to overcome these discrepancies.

The obstacles encountered by women in the innovation entrepreneurship perspective are considerable and often vastly different than those faced by their male counterparts. Regardless of the increasing academic and practical interests in gender and female entrepreneurship, these Athenas are competing in a subtle but more challenging Arena (Ranga & Etzkowitz, 2010, Brush et al., 2019). The discussion of how female-owned new ventures can increase their firm performance has not been suitably resolved (Lee et al., 2016), there is considerable research about the female gender negative impact on funding, financing and investment in startups (Manolova et al., 2007; Bigelow et al., 2012; Alsos & Ljunggren, 2017; Shukla et al., 2018), and the perception of business, technology and science as a male-dominated environment, whereas the feminine characteristics are underestimated (Manolova et al., 2007; Bigelow et al., 2012; Martin et al., 2015; Thébaud et al., 2015; Wing-Fai, 2016; Edelman et al., 2018; Guzman & Kacperczyk, 2019).

In particular, there is no review dedicated to a focused discussion of women and their participation in startup ventures. Such gap calls for further research, especially to identify *what are the major obstacles faced by entrepreneurial women in the growth-oriented startup perspective*. Therefore, this study proposes to map the research about women and startups, presenting a synthesized framework about barriers faced by female entrepreneurs in their way to high-growth entrepreneurship.

In order to achieve the aforementioned objective, this paper is organized as follows: the next subsection presents the theoretical background that will support the development of this study; the section ‘Methodological Procedures’ describes the methodology used to conduct the

review; the section ‘Findings and Discussion’ presents a bibliometric analysis, a conceptualization between traditional firms and firms focused on high growth within these analyzed articles, and the identification of how gender is approached in these studies; the next section, “Framework Proposition”, presents the seven key dimensions recurrently observed in the analyzed papers, the framework that demonstrate their relationship and a table that shows the correlations between all individual and external dimensions; lastly, ‘Conclusion and Future Research’ presents the final remarks and a future research agenda on women in the startup context.

2. Theoretical Background

2.1 Innovation and Startups

If firms are born out of the need to solve society's increasingly complex problems, and the increased knowledge that it demands (Coase, 1937), then innovation is the driving force for this society to continue to develop. Schumpeter (1942) proposed that when resources are limited, the allocation of appropriate resources is important for economic systems to be developed and may promote innovations when generating new consumers’ goods, new methods of production or transportation, new markets or new forms of industrial organization. For Acs and Szerb (2007), the rate of productivity growth is the most important economic indicator, and that, in the long term, determines the rate of advance in average living standards of a nation.

“Innovative startups can be seen both as a distinct form of entrepreneurship and as a distinct mechanism for developing innovations” (Audretsch et al., 2020b, p. 1). Although many firms start in the same way (as the conditions of extreme uncertainty are for all companies to go through, especially in times of exponential quantity of information and technology, and in the ongoing global economic slowdown), authors indicate that the main difference between a

traditional new venture and a startup business, in this specific definition, is the way they deal with growth (Wilson, 2011, Bullough et al., 2019, Audretsch et al., 2020b). As stated by Kerr, “firm growth is one of the most common measures of venture success” (2018, p. 20). This means that they have something they can sell to an exceptionally large market, at an extremely fast pace.

Considering the existence of this distinction between firms, it is necessary to deepen the conceptualization of this model of firms focused on growth, especially when it comes to economic development. This special form of innovative ventures have become an important agent of change in the economic, social, and even civilisational dimension (Skala, 2019). In such way, startups are “innovative, ambitious, expansive, fast-growing, and focused on global markets” (Skala, 2019, p. 13), and have a technology-based replicable business model.

Therefore, a startup correlates with the Schumpeterian concept of innovation: the development of new activities to find new solutions to new economic problems (Schumpeter, 1942). Acs et al. (2013) show that, since the first industrial revolution, technological change and progress have been drivers of economic growth. On the other hand, as society enters a new contemporary economy, Audretsch (2018) proposes that “knowledge and entrepreneurship have emerged as the twin components underlying economic growth policy”.

In order to keep competitiveness, a startup’s growth-oriented strategy is its scalability (Kuschel & Lepeley, 2016). They need to be lighter (hence the term Lean Startup, coined by Eric Ries) in the search for new markets, new products, and they do so by failing fast and learning even faster. Due to lack of solid theoretical basis, Audretsch et al. (2020b) propose a definition that revolves three dimensions: creation and implementation of a new idea in a new product or service; growth orientation; knowledge and/or technological intensity. Paul Graham, co-founder of Y Combinator – one of the biggest incubators and accelerators of the world, indicates that “startup equals growth”. Startups are expected to grow at a rate of between 5%

and 7% per week in their initial stage⁴. In comparison to traditional business ventures, that is a fast rate, and it can make a good scale model for the year. Given the recognition of the importance of growth-oriented companies for economic development, as well as the structures outlined by Audretsch et al. (2020b), which contains the growth-oriented category and correlates it to innovation, and also by the categorization offered by Blank, Ries and Graham, the definition of startup as a growth-oriented firm will be used in this research.

Startups are firms in their early stages, as they also arise to resolve a demand for knowledge, supply or demand, location or legal-institutional, solving an economic problem. However, the greater the firm's involvement with the operation (while production costs are lower than market acquisition costs), the greater its need for organization. From a Cosean (1937) perspective, one could say startups may grow to become organizations. Google and Facebook are examples of this, as they started small and growth-oriented and nowadays are two of the most valuable and profitable companies in the world (Fortune 500, 2019). But, even now, they keep their strategy of developing new products in the “fail-fast, grow quick” way. This is not a common outcome though, as there are thousands of companies amid startups, incubators, innovation ecosystems and accelerators, and only one out of twelve will prevail (Genome, 2019).

Acs et al. (2013) indicate that this is not a sole decision from the entrepreneur, as the context plays an important role in generating entrepreneurial opportunities from those ideas created. And, although there are so many companies thriving to succeed, we need a large magnifying glass to see where the women are in this context.

⁴ Paul Graham's essay, “Startup=Growth”, is a well-known orientation for newcomers. Access on <http://www.paulgraham.com/growth.html>

2.2 Gender and Startup Ventures

While the economically active population is normally seemingly divided in half between men and women, startups are not a common career pathway for women: a report by Crunchbase (a well-known source of information about startups worldwide) indicates that 20% all startups raising their first funding round in 2019 have a female founder⁵. The number doubled in 10 years, but the gender gap in high-growth entrepreneurship is still clear (Ewens & Townsend, 2020).

The research regarding gender-gap in the entrepreneurial context has been rising (Lin et al., 2018), however, the studies involving high-growth oriented ventures led by women are sparse (Hechevarria et al., 2019). That leaves a chasm in which women are not being acknowledged. If, on the one hand, it is well known that there is a gender and public policy gap (Lin et al., 2018; Bullough et al., 2019), on the other there is also a clear research gap that until recently was not being filled. Hechavarria et al. (2019) conceived the idea of creating a special issue focusing exclusively on high-growth companies led by women to start filling this gap, but this started considerably late, as far as 2017, well after the first studies focused on high-growth startups dating back to 1990.

The Global Entrepreneurship Monitor study (GEM, 2016) demonstrates that female entrepreneurship has been rising, especially in developing countries, and the number of women entrepreneurs in some countries exceeds the number of men entrepreneurs. The issue with this scenario is that the numbers also include self-employment, that does not reflect on the creation of business, but rather the registration of a sole operator, that probably will not grow its business to a company. Consequently, this may, in fact, mean either that there are substantial

⁵ EoY 2019 Diversity Report: 20 Percent Of Newly Funded Startups In 2019 Have A Female Founder - <https://news.crunchbase.com/news/eoy-2019-diversity-report-20-percent-of-newly-funded-startups-in-2019-have-a-female-founder/>

bureaucratic barriers to formally creating a new business, or simply that the economy is creating too few conventional wage-earning job opportunities (Acs et al., 2008).

In comparison with the past, the world of female entrepreneurship has never been better. The research about women entrepreneurship has been on the rise since the beginning of the 2000s (Hughes et al., 2012). The presence of women in leading roles and boards of companies has grown, and more and more women are starting new ventures. But the general feeling is not of victory, it is quite the opposite. The real data reveal that much remains to be done to increase women's presence in innovative entrepreneurship: men are, on average, “seven times more likely to be startup founders than women” (Breschi et al., 2018, p. 6).

Nevertheless, Verheul et al. (2006) indicate higher levels of female entrepreneurship can contribute to a higher quality of development based on greater diversity, in terms of products, processes, organization and markets. In contrast, Guzman and Kacperczyk (2019) found that enterprises with female leaders are 63% less likely to obtain venture capital than enterprises led by men. This impact is most significant in the startup's initial orientation, and women are less likely to find business models that signal growth potential for outside investors.

There is a need for a deeper understanding of the differences between the characteristics of women and men, and how they affect the creation of successful high-growth ventures. In doing this “gendered” research, it is possible to investigate further the “assumption that all entrepreneurs have equal access to resources, participation, and support, as well as an equal chance of a successful outcome” (Brush et al., 2019, p. 394). Often, the research about male and female entrepreneurs fails to probe the extent of the underlying aspects of this contrast, which can be favorable or not in the entrepreneurial process (Cerqueti et al, 2020; Alsos et al., 2013; Henry et al., 2016).

3. Methodological Procedures

The purpose of this article is to map the research on women entrepreneurs, especially regarding growth-oriented companies, also called "startups". The strategy to better understand this scenario was to carry out a systematic literature review, which is a “systematic search of literature through designated and clearly defined sources, followed by systematic data analysis and explanation” (Sayers, 2007, p.425).

In order to add rigor to this research, the PRISMA-P protocol was used. Proposed by Shamseer et al. (2015), the protocol is a guidance for systematic reviews. It indicates that the first step to achieve the objective of a systematic review is to determine a criterion for inclusion of papers in the research. The study began by searching papers published at **Scopus** and **Web of Science** databases, including title, abstract and keywords. Those databases were chosen as they are world-leading citation databases and very widely used by research studies (Zhu and Lui, 2020). Also, as they are competitors and encompass the representative journals of this field of research, they are an accurate database to get the coverage needed (Mongeon and Paul-Hus, 2016).

The search extended until **May 2021**. The keywords used were “gender”, “female” and “women”, each one correlated to “startup*”, “start-up*” and “new venture*”. A total of 2108 results were found in both databases. In the interest of maintaining the focus of the research in the innovation context, the search term “innovation” was applied to the results. This narrowed the result to 460 document results in Scopus Database and 89 results in Web of Science Database (table 1), leaving 549 results in total to the next step.

The next step was to **exclude categories** in the databases that did not match the criteria. Only categories that had explicit misalignment with the research were excluded, especially because a theme such as entrepreneurship enables a wide range of topics to analyze. Categories

related to medical practice and research, engineering, and education, for example, were rejected. All the excluded categories are listed in the Appendix I.

Table 1
Material Search

Keywords	(gender and startup*) or (female and startup*) or (women and startup*) or (gender and "new venture*") or (female and "new venture*") or (women and "new venture*") or (gender and "start-up*") or (female and "start-up*") or (women and "start-up*")
Scopus Database	1385 results
Web of Science Database	723 results
Total of studies found	2108
Limited to “innovation”	-1559 results
Total of articles found	549

To enable uniformity in the research, only **articles** written in **English** were included. As for maintaining the quality of the papers researched, only journals ranked **Q1** and **Q2**⁶ were included. At this stage, Scopus had 205 articles and Web of Science had 33 articles listed.

Then, a list with the selected 238 articles from both databases was added on Rayyan. The online software helps to **eliminate duplicates** and categorize all articles, giving them labels to inform the criteria of exclusion (see Ouzzani et al., 2016). It also helps with collaboration with multiple authors, so it can have a transparent review. After the upload, 21 papers were detected as duplicates, leaving **217 articles for further analysis**.

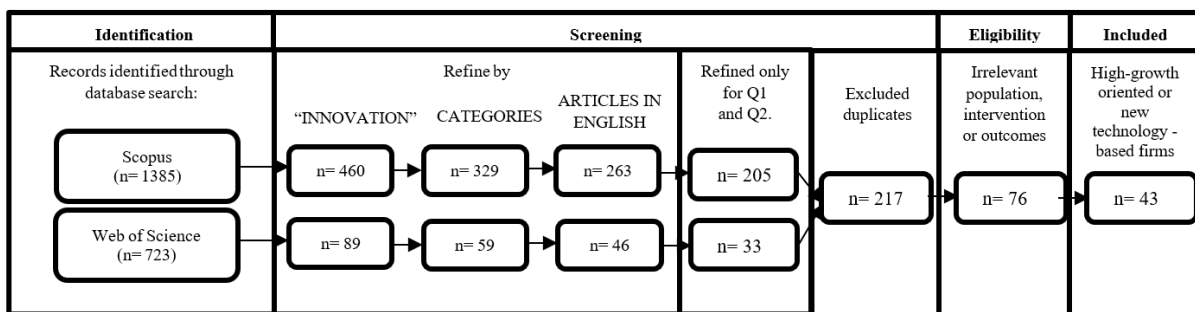
As this research is focused only on growth-oriented startups, it was imperative to be able to distinguish which research focused on this type of company and which was researching

⁶ Evaluation of an academic journal's impact and quality. For more information, see SCImago Journal Rank (SJR). Access on <https://www.scimagojr.com>. As this research started in January 2020, it uses the SCImago Ranking criteria from 2019.

only new companies, regardless of the focus on growth. Papers that focused on new ventures but discussed only small companies and entrepreneurship without the high growth-focus were excluded. Moreover, two papers were not able to be accessed, so they were excluded too. After this step, 76 papers were considered eligible for the analysis and were read in full.

This systematic review is composed only of articles whose research object is high-growth oriented or new technology-based firms, as those are characteristics of startups in the desired context analysis. Therefore, in the last step, after fully reading all the papers, it was possible to deepen the analysis and sort which ones did not have high-growth companies as the object of study, even though it was unclear when reading only the abstract. Following the last refinement of the papers, 43 articles were selected for a complete analysis. The flow chart of the complete process is presented in Figure 1.

Figure 1
PRISMA Flow Chart



After defining the papers included in this research, it was possible to establish categories that reflected what is researched about women and high-growth entrepreneurship. The findings, discussion and proposition of a framework are presented in the next subsections.

4. Findings and Discussion

In this section, the findings from the systematic review are displayed. First, a bibliometric analysis is presented, referring to the main author's gender, year of publication, geographic focus, journal diversity, and keywords used. Additionally, in order to add to the theoretical point of view on the topic of high-growth startups, a conceptualization is also made

about the differences between traditional firms and firms focused on high growth within these analyzed articles, and also how gender is approached in these studies.

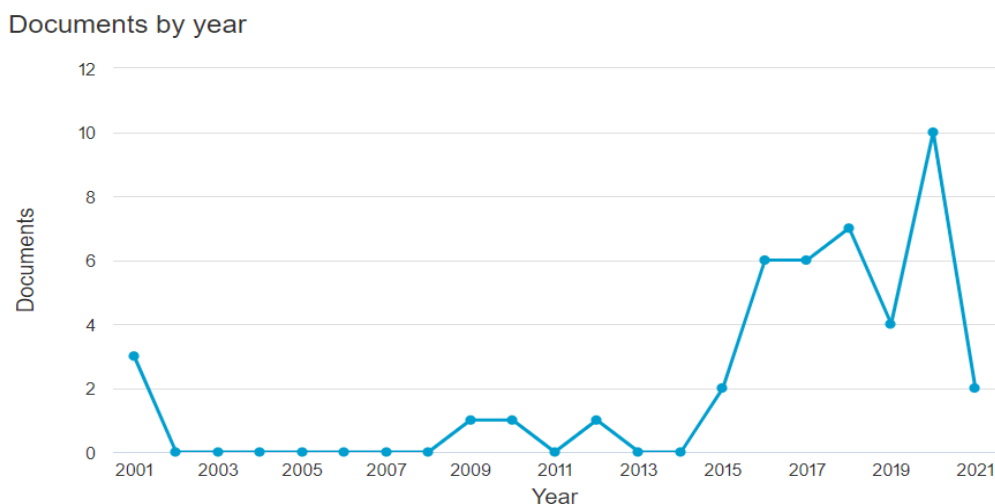
4.1 Bibliometric Overview

The first item that draws attention in the data analysis is the presence of female authors. From the final list of 43 articles included, women were first authors in 28 papers. Even though it was expected that there were more women researching the subject as this theme undoubtedly draws more attention from women than men, there were still 15 articles where men were first authors. When analyzing the group of authors of the articles included in this research, including co-authors, women are still in the majority - 56% are female authors and 42% are male authors (3 authors could not be identified).

All articles were written in a 20-year spectrum, the first being from 2001. The search was carried out until May 2021, so it is important to note that the number of articles found by the end of this year should be higher. It is possible to notice an increase in the number of articles per year, especially in the last decade (Figure 2).

Figure 2

Documents by year. Source: Scopus Database.

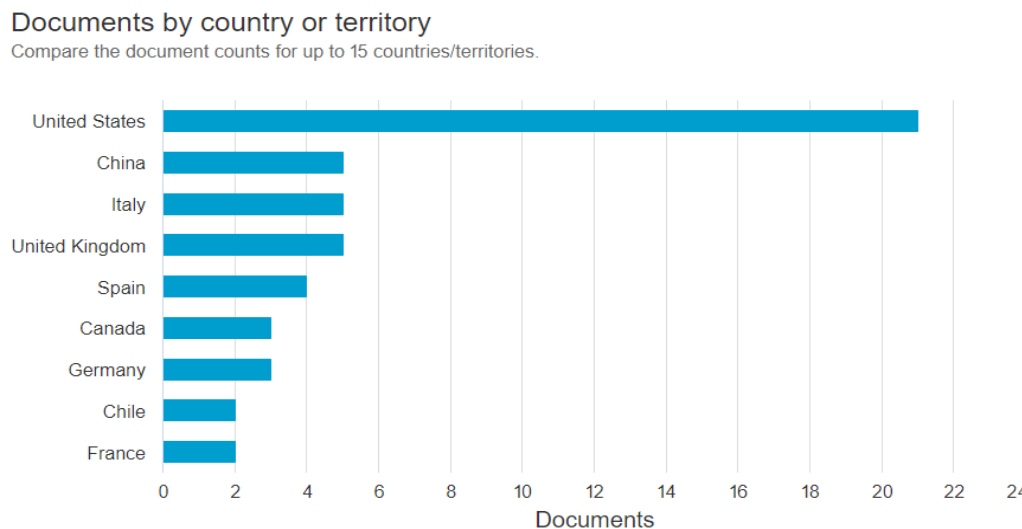


Note. The search was carried out in May 2021, so the number of articles found this year may be higher.

As Figure 3 reveals, it can be observed that the studies were carried out mostly in the United States (22 documents, one of which was not defined by the Scopus platform and, after reading it, it was possible to verify that it is also from the United States), followed by China, Italy and United Kingdom (5 articles each). Spain had 4 papers, Canada and Germany had 3 each, and Chile and France had 2 articles each. Belgium, Greece, India, Ireland, Jordan, Malaysia, Mexico, Netherlands, Norway, Russian Federation and South Korea had 1 paper each.

Figure 3

Documents by Country or Territory. Source: Scopus Database.



When looking at the academic journals the articles were published in, it is possible to see a wide diversity: there were 28 titles for 43 publications. Entrepreneurship Theory And Practice, International Entrepreneurship And Management Journal Venture Capital had 4 papers each; Small Business Economics had 3; International Journal of Entrepreneurial Behavior and Research, Journal of Business Research, Journal of Business Venturing and Journal of Small Business Management had 2 papers each. In addition to these, another 20 journals had 1 paper published each.

Diversity extends to the keywords. Altogether, there are 180 different keywords among the analyzed papers, and their frequency is truly low. Entrepreneurship and gender appear at the top of the list, with 11 and 10 respectively. However, 61% of the words appear only once in the entire group of articles analyzed, and 11% appear between 2 and 4 times in the search.

4.2 Startups

Although the number of papers that include the term startup has grown exponentially in recent years, there is little conceptualization about the differences between traditional firms and the startup phenomenon. As indicated by Breschi et al. (2018), there are two streams of literature: “the majority of small businesses with limited growth ambitions” and “a venture-capital backed company with fast growth ambitions and often with a heavy focus on sector” (Breschi et al. 2018, p. 9).

Most of the articles included in this review do not explicitly explain the startup definition they are using, although they indicate throughout the text that the research is related to new companies focused on high growth, companies based on the use of technology and focused on scalability, in the context of venture capitalists, or in connecting the term with environments common to startups, such as known startup ecosystems or familiar startup correlations.

In the papers that contextualize the differences between a new firm and a startup, some differences are pointed out. Yang et al. (2021) indicate that startups often use "effectuation" instead of "causation" to start their entrepreneurial process. Effectuation is used when the founding team seeks to understand what resources they actually have, and start their journey from them, seeking constant and incremental growth. On the other hand, ventures that are not focused on growth often first plan, and then go after the resources needed to consolidate this plan, a strategy called causation. The authors also highlight that startups limit risks by understanding what resources they are able and willing to lose, in contrast with the

transformation of existing (and acquisition of new) resources, which results in exchange costs (Yang et al., 2021). Giotopoulos et al. (2017), likewise, differentiate startups from traditional firms by acknowledging that the first uses a lean methodology for its development, undertaking the learning stages in a shorter and more recurrent way, while the second uses a method more focused on planning and determining objectives, systematically using a waterfall methodology to achieve them. The authors also infer that it is not possible to identify high-growth firms in advance, so it is necessary to analyze them by the ambition of growth. Furthermore, these ventures start by searching for investment to focus their business model on scalability. By contrast, traditional firms are necessity driven, recurrently becoming low quality self employment and focusing on survival (Giotopoulos et al., 2017).

4.3 Gender

Following the perspectives pointed out by Alsos et al. (2013) and by Henry et al. (2016), it is possible to see the presence of two different uses of *gender* in the research: 1) as a synonym for biological sex and using it as a **variable**, applying gender classification with the aim to point out differences between men and women regarding a specific subject; 2) as the focus of the research, especially on female traits and how they **influence** the entrepreneurial process (Alsos et al., 2013; Henry et al., 2016). The third perspective indicated by Alsos et al. (2013), of how the gendering processes affect organizations and systems, can be seen slowly appearing in the analyzed papers, but without the depth indicated by the authors, therefore, was not included in the analysis. Table 2 shows the distribution of authors from the perspective of how they use gender within the research.

Table 2*Distribution of authors by gender perspective.*

Gender perspective	Authors
Variable (n=23)	BarNir, 2012; Berger & Kuckertz, 2016; Cicchiello et al., 2020; Cumming et al., 2020; De Crescenzo et al., 2020; Del Bosco et al., 2021; Edelman et al., 2018; Ewens & Townsend, 2020; Fairlie & Miranda, 2017; Gimenez-Jimenez et al., 2020; Giotopoulos et al., 2017; Giudici et al., 2020; Gloor et al., 2020; Greene et al., 2001; Guzman & Kacperczyk, 2019; Kee & Rahman, 2018; Poczter & Shapsis, 2018; Quintana-García & Benavides-Velasco, 2016; Verheul & Thurik, 2001; Veselovsky et al., 2017; Wing-Fai, 2016; Yang et al., 2020; Yang et al., 2021.
Influence (n=20)	Aernoudt & De San Jose, 2020; Alakaleek & Cooper, 2018; Alsos & Ljunggren, 2017; Armuña et al., 2020; Balachandra et al., 2019; Dai et al., 2019; Gundry & Welsch, 2001; Hampton et al., 2009; Kuschel & Lepeley, 2016; Kuschel et al., 2017; Kwapisz & Hechavarría, 2018; Lins & Lutz, 2016; Martin et al., 2015; McQuaid et al., 2010; Neill et al., 2015; Neill et al., 2017; Shukla et al., 2018; Xie & Lv, 2016; Xie & Lv, 2018; Yacus et al., 2019.

4.4 Categorization

After reading the selected articles in full, it was possible to identify seven key categories that are recurrent in the analyzed papers: Ambition Profile (17 articles), Network Characteristics (22 articles), Risk Predisposition (15 articles), Leadership Capabilities (10 articles), Funding and Financing (27 articles), Homophily (11 articles) and Gender Bias (21 articles). Table 3 shows the distribution of key categories identified by article.

Table 3*Distribution of key categories identified by article.*

Gender Perspective	Author	Ambition Profile	Risk Predisposition	Leadership Capabilities	Network Characteristics	Homophily	Funding and Financing	Gender Bias
Variable	BarNir, 2012		X		X			
	Berger and Kuckertz, 2016						X	

	Cicchello et al., 2020			X	X	X	X	X
	Cumming et al., 2020				X		X	X
	De Crescenzo et al., 2020				X	X	X	
	Del Bosco et al, 2021	X			X			
	Edelman et al., 2018	X		X		X	X	X
	Ewens and Townsend, 2020		X			X	X	X
	Fairlie and Miranda, 2017	X		X				
	Gimenez-Jimenez et al, 2020		X		X	X		X
	Giotopoulos et al. 2017	X	X		X			
	Giudici et al., 2020		X			X	X	
	Gloor et al., 2020	X		X	X		X	
	Greene et al., 2001				X		X	
	Guzman and Kacperczyk, 2019	X			X	X	X	X
	Kee and Rahman, 2018		X					
	Poczter and Shapsis, 2018						X	X
	Quintana-García and Benavides-Velasco, 2016			X				X
	Verheul and Thurik, 2001	X	X		X		X	
	Veselovsky et al., 2017						X	
	Wing-Fai, 2016				X	X		
	Yang et al., 2020			X	X		X	X
	Yang et al., 2021	X	X					
Influence	Aernoudt and De San Jose, 2020	X				X	X	
	Alakaleek and Cooper, 2018				X		X	

Alsos and Ljunggren, 2017	X			X	X	X	X
Armuña et al., 2020	X		X				
Balachandra et al., 2019	X		X			X	X
Dai et al., 2019			X				X
Gundry and Welsch, 2001	X		X			X	
Hampton et al., 2009				X			
Kuschel and Lepeley, 2016		X				X	
Kuschel et al., 2017		X		X	X	X	
Kwapisz and Hechavarría, 2018	X	X		X		X	X
Lins and Lutz, 2016		X				X	X
Martin et al, 2015				X			X
McQuaid et al., 2010				X		X	X
Neill et al., 2015	X			X			X
Neill et al., 2017	X						X
Shukla et al., 2018	X	X				X	X
Xie and Lv, 2016				X			X
Xie and Lv, 2018		X				X	
Yacus et al., 2019		X				X	X
Total	17	15	10	22	11	27	21

5. Barriers To Female High-Growth Entrepreneurship Framework

Once the recurring topics approached in the analyzed articles were categorized, it was possible to design a framework that includes a gender perspective in the entrepreneurial process.

5.1 Framework Dimensions

An inductive methodological approach was undertaken for building the framework: the results are grounded in the observation of the recurring categories that surfaced during the systematic literature review (Juma & Serqueira, 2016). These categories, when correlated, become dimensions of the barriers encountered by women on their path to developing high-growth companies, and reflect the two paths, according to the theoretical structure of the entrepreneurship literature: individual factors and external factors (Juma & Serqueira, 2016; Neill et al., 2017; Del Bosco et al., 2019; Cerqueti et al., 2020; Audretsch et al, 2020a). In this research, individual factors are ambition profile, risk predisposition, leadership capability and network characteristics, and external factors are funding and financing, homophily and gender bias.

5.1.1 Individual Factors

Ambition Profile. For the creation of startups, it is necessary that the founding person has the intention to build fast growing and scalable companies. This dimension deals with the intention to build companies that are focused on fast and scalable growth, and that are focused on return on investment.

In comparison to low-growth entrepreneurs, high-growth female entrepreneurs exhibit greater strategic growth and expansion intentions, have a superior intensity displayed, are willing to incur the opportunity costs of their objectives, have more organic structures, and value strategic success (Gundry & Welsch, 2001).

Armuña et al. (2020) indicate that the ambition of creating high-growth ventures is not significantly different between male and female entrepreneurs. However, the ambition to promote the development of a venture often correlates with the need to ask for funding, and as women ask for less funding than men, it can be interpreted as a more conservative strategy and,

consequently, create an incorrect perception of lack of ambition (Aernoudt & De San José, 2020; Kwapisz & Hechavarría, 2018; Balachandra et al., 2019). Kwapisz & Hechavarría (2018) suggest that the lack of intention in creating a growth-oriented business may relate to the fear of taking risky decisions.

Ambition is also often correlated with opportunity-driven entrepreneurs, as they are keen to perceive and exploit opportunities and resources to grow (Giotopoulos et al., 2017; Neill et al., 2017; Shukla et al., 2018), and also is often considered a masculine trait. This creates a barrier for women to “act ambitious”, since gender stereotypes end up preventing women from acting ambitious and may bias investors’ and partners’ interpretations (Edelman et al., 2018). Another cultural structure in place is women’s career choices, that are frequently affected by child and family care, leaving women to resort to business with a lower growth potential (Guzman & Kacperczyk, 2019). In short, the constant questioning of women's ability to create high-growth companies is related to their role in society, the self-questioning being as hard as the society's interpretation on their decisions.

Risk Predisposition. This dimension is about the entrepreneur’s predisposition to assume risky positions when developing a new venture. Women are regularly viewed as risk averse (Verheul & Thurik, 2001; Lins & Lutz, 2016; Shukla et al., 2018; Yacus et al., 2019; Ewens & Townsend, 2020; Gimenez-Jimenez et al, 2020) or having a lower tolerance towards taking riskier decisions (BarNir, 2012; Giotopoulos et al. 2017; Kee & Rahman, 2018; Kwapisz & Hechavarría, 2018; Xie & Lv, 2018; Yang et al., 2021). Nevertheless, entrepreneurship is a risky endeavor (Gimenez-Jimenez et al, 2020), and the predisposition of a riskier decision-making is what enables the existence of higher return on investment (Yacus et al., 2019). This trade-off is a constant in the making of a high-growth venture (Shukla et al., 2018; Yacus et al., 2019), and, despite being a stated fact or stereotype, this influences women’s decision on

finance and strategy, so much so that their advance is restricted and their potential is limited (Yacus et al., 2019).

Women have less access to resources, therefore being more propense to analyze their resources with greater scrutiny, limiting costs (Yang et al., 2021) and leaning less towards volatile decisions (Yacus et al., 2019). Moreover, female entrepreneurs have a lower propensity to start activities in markets with higher risk (Gimenez-Jimenez et al, 2020).

Leadership Capability. When focusing on high-growth entrepreneurship, an entrepreneur needs the ability to build and lead teams. Female entrepreneurs feel confident in their team-working skills (Armuña et al., 2020), despite being disadvantaged in gaining leadership positions, as the impact of feminine-stereotyped behaviors is unfavorable to a female entrepreneur's perceived leadership capability (Edelman et al., 2018; Balachandra et al., 2019; Cicchiello et al., 2020). In this sense, research shows that both men and women infer that female leaders are less capable (Yang et al., 2020).

The perception of gendered characteristics leads to stereotypes that reflect both on women's choices and on their trajectories. Women are regularly considered subordinates, which leads to a perception of incongruity when they assume leadership roles (Yang et al., 2020).

As a consequence of the weight of the expectations of entrepreneurial leadership behavior, female entrepreneurs have fewer probabilities than male entrepreneurs of hiring their first employee (Fairlie & Miranda, 2017). An important factor considered among high-growth entrepreneurs towards a sustainable growth of their ventures is the effective competent leadership provided at the startup (Gundry & Welsch, 2001). Albeit, new venture teams with higher diversity have an impact in innovation performance, also acting like a role model for women to join the startup (Dai et al., 2019).

Network Characteristics. The startup development process requires a close-knit team, trust and a complementary skills set (Wing-Fai, 2016). New venture performance is influenced

positively by social networks and entrepreneurial alertness of female tech-entrepreneurs, and negatively by gender discrimination, that also works with a negative effect moderating the relationship between the social networks (Xie & Lv, 2016).

Wing-Fai (2016), Xie and Lv (2016), Alakaleek and Cooper (2018) analyzed women's and men's social networks and their implication in funding and growth in new ventures, and identified that the roles that women have to cope with along their lives are more diverse (and are not expected to be only related to entrepreneurship), and consequently female entrepreneurs usually have smaller networks related to business. Women also spend less time creating new connections (Verheul & Thurik, 2001). Because of this, they have less access to venture capitalists and even to new knowledge (Greene et al., 2001; McQuaid et al., 2010; Wing-Fai, 2016; Xie & Lv, 2016; Alakaleek & Cooper, 2018; Alsos & Ljunggren, 2017; Giotopoulos et al. 2017; Guzman & Kacperczyk, 2019; Gloor et al., 2020).

The smaller size of women's network directly affects their access to resources. The bigger the size of an entrepreneur's social network, the more likely to achieve success in acquiring investment (BarNir, 2012; Cicchiello et al., 2020; Cumming et al., 2020; De Crescenzo et al., 2020; Gloor et al., 2020). Besides that, spaces designed to foster networking, like accelerators and incubators, should have an important role in increasing birth rates of women-founded innovative startups, but, as women have less access to these spaces, they benefit less from this form of entrepreneurial support (Del Bosco et al, 2021). Gimenez-Jimenez et al. (2020), on the other hand, stress how socially supportive cultures positively impacts women's network diversity, generating a greater access to resources.

As a result, women's network choices end up expanding or restricting their access to resources that can make their venture's success possible.

5.1.2 External Factors

Homophily. Homophily is the tendency of individuals to associate and form bonds with others like themselves, for example the tendency of men to bond with other men in the market and women to bond with other women (Giudici et al., 2020, Alsos & Ljunggren, 2017; Wing-Fai, 2016). Correlated especially with funding and investment, it shapes the tendency of male investors to invest in other men's business, as they feel more "similar" (Edelman et al., 2018; Giudici et al., 2020; Ewens and Townsend, 2020; Guzman and Kacperczyk, 2019; Aernoudt and De San Jose, 2020). As there are more male investors in the startup scenario, fewer resources are allocated in startups founded or run by women (Guzman and Kacperczyk, 2019).

On the other hand, the inverse is also true: women angel investors have a clear propensity to invest in women founders (Aernoudt & De San Jose, 2020), albeit there is less women investors, and female crowdfunding investors are also more likely to invest in projects lead by women (Cicchiello et al., 2020).

This tendency also influences the intentional creation of networks, since, by connecting more often with other people of the same gender, women can end up having fewer male investor contacts and other male contacts that could positively influence the development of their business (Alsos & Ljunggren, 2017), or even have fewer connections that can become partners in founding teams (Wing-Fai, 2016).

Funding and Financing. Since female-led startups are less likely to be created, they are less likely to receive external funding (Guzman & Kacperczyk, 2019). Nascent women entrepreneurs also might receive less funding because they ask for less, or even that they lack confidence in their entrepreneurial capabilities (Verheul & Thurik, 2001; Kwapisz & Hechavarría, 2018). Nevertheless, as gender performance is embedded with different signals, fund investors consider and evaluate those signals in the process of venture investment (Alsos & Ljunggren, 2017). Consequently, similar characteristics are interpreted differently

depending on gender, and that the demands made for entrepreneurs are influenced by gendered expectations, and consequently affects the evaluation of a venture's prospects (Alsos & Ljunggren, 2017; Balachandra et al., 2019). Gender and gender traits are different perspectives, and the behaviors of masculinity and femininity are what in fact influence investor decisions and perceptions (Balachandra et al., 2019).

At times, angel investors consider women-led entrepreneurial ventures as showing less legitimacy than those led by men, even though there were no differences in the signals of legitimacy shown in the sample by both men and women (Edelman et al., 2018; Shukla et al., 2018). Even under identical scenarios, venture capitalists were more likely to grant loans, counter-offers, and larger counter-offers to males than to female entrepreneurs, often considering women-led startups more conservative (McQuaid et al., 2010; Edelman et al., 2018; Shukla et al., 2018; Aernoudt & De San Jose, 2020).

As a result of these situations faced by women when seeking investment, they end up seeking personal funding to start their businesses, recurrently leading to a lower amount than what could have been achieved through venture capital (Yacus et al., 2019).

Gender Bias. Stereotyping women causes gender discrimination, which refers to discriminatory speech or behavior that is caused by gender biases (Xie & Lv, 2016). The incongruity between acting with female traits and holding a role supposedly masculine leads to biases against women, once nurturing and care-giving behaviors are often seen as female, whereas positions of power and assertiveness are deemed as masculines (Balachandra et al., 2019). According to Guzman and Kacperczyk (2019), at least 35% of the gap between successful and unsuccessful ventures with growth orientation reflects investors' biases and stereotypes about gender. More often than not, choices are made through gendered filters (Yang et al., 2020).

Neill et al. (2015) hypothesized about women entrepreneurs in high-growth startups, and discovered that self-efficacy, the individual's level of confidence or belief in their ability to perform and to achieve goals, amplified the relationships between a discover mindset and the pursuit of serial ventures. Most entrepreneurs in high-growth new ventures engage in both the discovery and creation of opportunity (Neill et al., 2017). In combining discovery with creation, the entrepreneurs comprising the ambidextrous group are the most likely to leverage experience, learning, and cognitive leaps. They are also highly confident in their capacity to succeed.

Edelman et al. (2018, pg. 152) argue that "there is a subtle bias that follows from the perceived stereotype between being female and the ability to lead a legitimate new venture". Yang et al. (2019) draw on signaling theory to analyze a startup accelerator selection decisions. When signals that are congruent with their gender, selection probabilities increase for both men and women. But when those signals are incongruent with the entrepreneur's gender, selection probabilities increase only for men, while those for women decrease below those of women who send no signals at all.

In addition to that, women are stereotyped to be caregivers, which impacts both in psychological terms and in expectations of the family and society (Shukla et al., 2018). Women, in fact, achieve higher success in feminine industries than in nonfeminine industries (Yacus et al., 2019). Therefore, these gender stereotypes occur so often that they are culturally ingrained, being reproduced by both men and women (Yang et al., 2020).

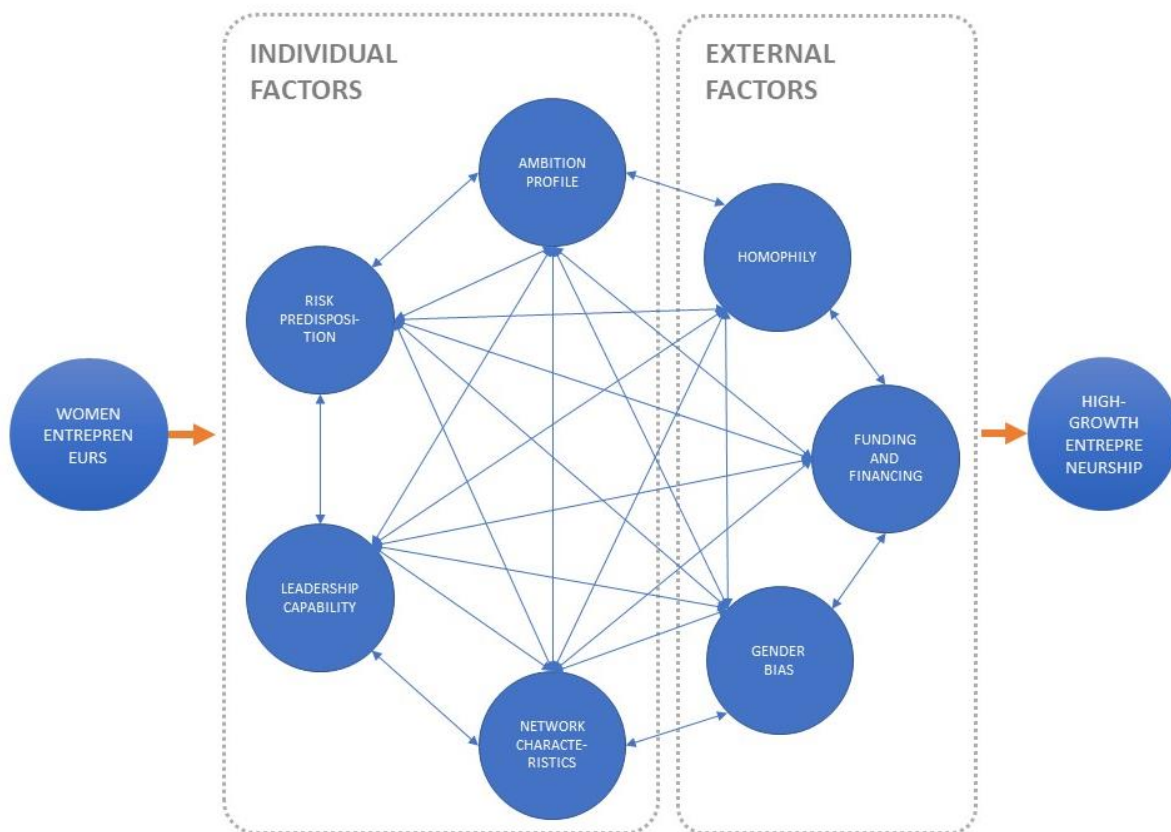
6. Framework

After defining the articles included in this research, it was possible to establish dimensions that reflect what is researched about women and high-growth entrepreneurship. All articles investigate the barriers faced by women in the startup context, even if the scope of the research is not directly related to the term. Barriers was a timely and recurring theme, not the

aim of the study. Thus, an analysis structure of these barriers within the female entrepreneurial process in the context of startups was proposed.

Analyzing these dimensions, it is suggested that they might be organized into this schema, as follows.

Figure 4
Barriers to Female High-Growth Entrepreneurship Framework



This framework conceptualizes the relationship between the prominent dimensions in the systematic literature review. In their way to developing a high-growth venture, female entrepreneurs have to build up and develop individual factors and overcome external factors. Both factors affect the venture's performance, in addition to interfering in other dimensions as well: the intentional building of a business contact network, for example, affects the access to venture capitalists, which consequently impacts access to investments. The tendency of

individuals to associate with others like themselves, homophily, also influences the access that women entrepreneurs have to spaces meant for building an entrepreneurial network. Every individual factor is influenced by every external factor, and the opposite is also true. To clarify this perception, the table below presents correlations between all individual and external dimensions.

Table 4
Correlations between all individual and external dimensions.

	Homophily	Funding and Financing	Gender Bias
Ambition Profile	<p>Low ambition perceived causes less partnerships;</p> <p>Homophily limits access to entrepreneurs and new knowledge to grow.</p>	<p>Low ambition perceived causes less funding received;</p> <p>Less funding causes less access to resources necessary to venture growth.</p>	<p>Low ambition perceived without analysis causes perpetuation of stereotypes;</p> <p>Stereotyped perceptions of women affect the recognition of a bold growth ambition profile.</p>
Risk Predisposition	<p>Perception of female risk aversion leads to less partnerships;</p> <p>Homophily limits access to entrepreneurs and knowledge to grow.</p>	<p>Perception of female risk aversion affects access to funding;</p> <p>Less funding causes less access to resources necessary to venture growth.</p>	<p>Perception of female risk aversion without analysis causes perpetuation of stereotypes;</p> <p>Stereotyped perceptions of women affect the recognition of a different decision-making process.</p>
Leadership Capability	<p>New venture teams with higher diversity have an impact in innovation performance, if there is a choice for similar gender, the results are inferior;</p> <p>Women have fewer probabilities than male entrepreneurs of hiring their first employee, especially from the opposite gender.</p>	<p>Historical abstention of leadership position makes it harder to ask for investment;</p> <p>Less funding leads to less resources to hire new employees.</p>	<p>Leadership roles are associated with men, and when role incongruity happens, it impacts decision-making;</p> <p>Feminine-stereotyped behaviors are unfavorable to a female entrepreneur's perceived leadership capability.</p>
Network Characteristics	<p>Smaller size of women's network causes less partnerships;</p> <p>Spaces prone to foster startup ventures have more males than females, homophily limits women's access to these networks.</p>	<p>Smaller size of women's network affects access to venture capitalists.</p> <p>Less funding hinders high-growth entrepreneurs networking.</p>	<p>Smaller size of women's network causes less women entrepreneur exposure, perpetuating stereotypes;</p> <p>Gender discrimination affects the access to entrepreneurial networks.</p>

Analogue with the model proposed by Juma and Serqueira (2016), although women startup entrepreneurs may have favorable individual factors necessary for venture performance, they must act within the unfavorable context of the external factors. The authors propose that a higher development of individual factors drives better performance, yet they are also prone to the effects of external factors. In this sense, both aspects - internal and external - are constantly influencing each other, and cannot be considered separately (Juma & Serqueira, 2016).

Therefore, it is argued that, in order to achieve female high-growth entrepreneurship, women need to build a path to overcome the barriers encountered. It is expected that the consolidation of this framework based on the dimensions found in this research will enable the mapping of strategies and policies to reduce these barriers and help navigate more effortlessly in the way of venture success.

7. Conclusion

This study contributes to the understanding of the gender perspective inside the startup entrepreneurial context by providing a structured framework to analyze the barriers faced by women entrepreneurs in their way to create and develop high-growth ventures. The discussion about gender in the entrepreneurial context is on the rise - as seen by the numbers collected by this research, more and more papers debating this scenario are being published each year. On the other hand, the discussion about startups and their different forms is not consolidated. A more integrative approach about these definitions is necessary, as it is in alignment with the Schumpeterian and Coasean innovation perspective (Skala, 2019).

A comprehensive literature review on women startup entrepreneurs has been undertaken with 43 papers that followed a restricted categorization and analysis. The paper elucidates the barriers that women face when developing a new high-growth oriented venture: as individual factors - Ambition Profile, Risk Predisposition, Leadership Capability and

Network Characteristics - and external factors - Homophily, Funding and Financing and Gender Bias.

This study is a necessary cornerstone for understanding the gender perspective within the innovation context. There are a growing number of studies attempting to understand what women face when entering the labor market, the STEM areas, the entrepreneurial universe, and so forth. Innovation, as a wide and relatively new research field, can relate to entrepreneurial research, as it can be seen as a vector for economic development (Coase, 1937). There is still significant work to be done, but it is important to acknowledge the barriers that women encounter when navigating those fields, so it is possible to create strategies to overcome those obstacles, especially in the entrepreneurial scope (Brush, 2019).

As it is a recent topic, both in relation to startups and gender within this context, this research tends to be diffuse, without granularity. For example, there are no common theories, and there are few lines of research that try to expand the gendered debate. It is necessary to analyze both startups and the gender perspective, to have a deeper understanding of the impacts of gender in the creation and development of high-growth ventures. However, it is clear that the subject's presence in academic research has increased considerably in recent years, including prominent authors in the study of economic development, such as Audretsch and Etzkowitz, approaching the theme. This strengthens and provides a theoretical framework for the subject, and allows the discussion to mature. It is expected that the proposed structure can help in the development of a strategy to resolve or reduce these mishaps in the female entrepreneurial process.

All Athenas in the Arena must be acknowledged, as they are facing a well-known divergent situation as their male counterparts, with challenges throughout time, spaces, laws and cultures, in almost every country of the world. The situation is changing, but this is despite the structure of the entrepreneurial culture, not thanks to it.

7.1 Limitations and Future Research

The term "startup" is often used to define a new entrepreneurial initiative. However, there are at least three ways to start an entrepreneurial activity: use it as self-employment, focus on creating a solid business model and focus on creating a high-growth business model. The last two are often intertwined, and, although the definition of startup is well determined outside of the academia universe and it is widely used by innovation ecosystems and authors such as Ries, Blank, and Graham, the definition in the academia is not yet synonymous for these high-growth focused initiatives, as it was seen in the papers analyzed for this review.

One of the main difficulties of this research was to differentiate between studies that were investigating early entrepreneurial movements, without discrimination by which strategy used to do so, and research focused on this particular type of startups that seek a scalable business model. In other research made by this author, that did not focus especially in the gender context but mostly in the innovation ecosystem, it is more common to relate the word "startup" with this growth context. Future studies on female entrepreneurship could follow this differentiation and present a clear segmentation of "what kind" of entrepreneurship is being analyzed. More than that, future research can focus on high-growth startups led by women.

As Gundry and Welsch (2001) point out, there is a knowledge-gap in the sense that it is unclear whether the observations in several studies that focus on high-growth firms are similar or different for low-growth firms. This study did not focus on low-growth firms, so the body of research on display here does not comprise those types of firms. Future research is necessary both to understand the low-growth firms' scenario and to compare the two scenarios. In this sense, it is also possible to segment the research by developing and developed countries, noting whether this results in a difference in the results.

Especially regarding the dimensions found, it is suggested that future researchers deepen their understanding from qualitative and, later, quantitative analyses. Alongside, as so

many of the articles analyzed address the topic of funding and financing, it is also interesting to seek to apply a systematic literature review on this topic.

Finally, it is imperative to reach maturity in the discussion about how gender impacts the entrepreneurial process, and as it “is being produced and reproduced in organizations and systems through gendering processes” (Alsos et al., 2013, p. 243).

2nd Article:

Athena in The Arena: Key Factors Restricting Female Startup Growth

Abstract

Startups differ from traditional firms by using a lean methodology for venture development, learning and iterating recurrently, while traditional companies plan and determine objectives, iterating in the time planned. This kind of firm can be perceived as a new form of entrepreneurship and as a mechanism for developing innovations. Given their importance, it is noticeable that the participation of women in the founding team of startups is undoubtedly sparse. The founder of a startup has an important responsibility in the process of venture creation and success, and research about male and female entrepreneurs is still unsuccessful to analyze if gender impacts on venture success. It is necessary to contribute to a finer-grained analysis of the invisible barriers women face when developing a high-growth venture. Based on the analysis of the Barriers to Female High-Growth Entrepreneurship Framework, women have to build up and develop individual factors and overcome external factors. Both factors affect the company's performance, in addition to interfering in other dimensions of the framework. Consequently, this study aims to shed light on *how individual and external factors relate to the process of creating a high-growth venture, identifying, on the perception of women startup-founders, how these barriers work and can be overcome in the entrepreneurial process*. To analyze it, an exploratory qualitative research was conducted with Brazilian female startup-founders and showed that female founders often undertake objective strategies to overcome these barriers. This study shows a characterization of each dimension of barriers to high-growth entrepreneurship and strategies women entrepreneurs of high-growth ventures use to overcome these barriers.

Keywords: gender, women, female, entrepreneurship, startups, new ventures

1. Introduction

Startups are different from traditional firms, as they use a lean methodology for venture development, and learn and iterate recurrently, while traditional companies plan and determine objectives, iterating in the time-frame planned (Giotopoulos et al., 2017). When a new venture is created, it is, often, its ambition of growth that determines if it will be seen as a startup, since startups' business models are focused on scalability (Skala, 2019). In this context, this different kind of firm can be perceived as a new form of entrepreneurship and also as a "distinct mechanism for developing innovations" (Audretsch et al., 2020b, p. 1), which asserts the importance of startups in the entrepreneurial setting. On a deeper look, both the Schumpeterian entrepreneur (1934) and the Coasean entrepreneur-coordinator (1937) suggest one important element in the dynamics of entrepreneurship: the agent who is the center of knowledge within the company. The founder of a startup has an important responsibility in the process of venture creation and success, as "knowledge and ideas flow through the economy via individuals; startup success critically depends on its founders' experience and incentives" (Breschi et al. 2018, p. 7).

However, innovation and entrepreneurship have been seen as a gender-biased scenario (Alsos et al., 2013; Audretsch et al., 2020a). Science and technology have been areas where women often have fewer chances of working, although these are key fields for innovation to arise (Martin et al, 2015; Kuschel and Lepeley, 2016). The participation of women in technology, innovation and entrepreneurship has been in topics of research for decades, but there is still much to understand about why the number of women in these scenarios is so scarce and the change in the gaps perceived is so slow (Ranga and Etzkowitz, 2010). More than that, given the importance of the startup founder, women's presence in the founding team of startups is alarmingly sparse: only 15.5% of Europe's startup founders are women (Eisenhauer, 2021), there are 28% of female startup founders in the US (Silicon Valley Bank, 2021), and in Brazil

4.7% of startups were founded exclusively by women and 5.1% co-founded by women (a mixed team between women and men), representing only 9.8% of female presence in the founding team (Female Founders Report, 2021).

Research about male and female entrepreneurs is still unsuccessful to analyze the main angles of this comparison, and if they have a positive or negative impact on venture success (Alsos et al., 2013; Henry et al., 2016; Cerqueti et al., 2020). Nevertheless, it is clear that women face a greater number of barriers in their entrepreneurial path, especially in relation to high-growth oriented business. Women face distinct barriers ingrained in gender bias, as their feminine characteristics are depreciated in business, technology and science fields (Manolova et al., 2007; Bigelow et al., 2012; Martin et al., 2015; Thébaud et al., 2015; Wing-Fai, 2016; Edelman et al., 2018; Guzman & Kacperczyk, 2019) and they have less access to funding, financing and investment in startups (Manolova et al., 2007; Bigelow et al., 2012; Alsos & Ljunggren, 2017; Shukla et al., 2018). It is necessary to contribute to a finer-grained analysis of the “invisible barriers built into male-gendered systems” (Ranga and Etzkowitz, 2010, p. 2). Therefore, as the first article elucidates the barriers that women face when developing a new high-growth oriented venture and offers a conceptual framework to analyze these barriers, this second article analyses how these barriers affect women in their way to develop a high-growth oriented venture. Following Juma and Sequeira (2016), this study supports that personal characteristics and environmental context cannot be disassociated from entrepreneurs. They should not be taken independently from the resources that they produce and provide their firm.

In line with theoretical structure of the entrepreneurship literature (Juma & Serqueira, 2016; Neill et al., 2017; Del Bosco et al., 2019; Cerqueti et al., 2020; Audretsch et al., 2020a), this paper follows the framework proposed in the first article, that elicits barriers to female high-growth entrepreneurship, represented by individual factors (ambition profile, risk

predisposition, leadership capability and network characteristics) and external factors (funding and financing, homophily and gender bias).

In order to achieve female high-growth entrepreneurship, women need to build a path to overcome the barriers encountered. It is expected that the consolidation of this framework based on the dimensions found in this research will enable mapping strategies and policies to reduce these barriers and help navigate more effortlessly in the way of venture success. Consequently, this study aims to shed light on *how individual and external factors relate to the process of creating a high-growth venture for female entrepreneurs, identifying how these barriers work and can be overcome in the entrepreneurial process*. In order to achieve this objective, this paper presents the results from an exploratory, qualitative research conducted with eight Brazilian female startup-founders, and was conducted using semi-structured in-depth interviews over a two month period. These entrepreneurs were located in different states of Brazil, and their startups were from different markets, such as Edutech (2), Ecommerce, Groceries on-demand delivery, Automated convenience stores, Fintech, Biosecurity and Software as a Service (SaaS). The results show the characteristics of the dimensions that compose the framework and outline a series of actions that can help women in creating and growing a startup.

In their way to high-growth entrepreneurship, women need to create and implement strategies to overcome the dimensions of the barriers that are recurrently encountered. To contribute to building a more egalitarian path within the context of startups, this paper presents characteristics of the dimensions analyzed and outlines a series of actions that can help women in developing a startup.

This paper is organized as follows: the next subsection presents the theoretical background that will support the development of this study; the section ‘Methodological Procedures’ describes the methodology used to conduct the interviews and their analysis,

‘Findings and Discussion’ presents the findings of the research undertaken and recurring issues and discussion within each of the seven dimensions of this study. Then, a set of strategies for women entrepreneurs of high-growth ventures to overcome these barriers identified in the dimensions are proposed. Finally, the implications and future research agenda of this study are presented.

2. Women in the Startup Context

The understanding of how gendered processes affect organizations and systems has been timidly appearing in the research regarding women and startups (Alsos et al., 2013). Research shows that an entrepreneur's gender can influence how they develop their venture (Jennings & Brush, 2013), and can also impact how their venture will grow (Gupta et al., 2019; Cerqueti et al., 2020). Gender, in this matter, is an observable behavior, as it can be seen as something that both men and women act upon, “through a ‘stylized repetition of acts’” (Butler, 1988, p. 519). Constantly, and especially in research related to women, gender is used as a synonym of biological sex (Cerqueti et al., 2020), but this is a rather simplistic view of the term. Gendered characteristics frequently refer to individuals and their roles, more than their sex (Brush et al., 2018). Ambitious, risk-taking, growth-oriented attributes are often associated with masculinity, for example (Edelman et al., 2018), and women are recurrently seen as caregivers (Shukla et al., 2018) and more careful and conservative than men (Greene et al., 2001).

The literature brings different levels of the use of gender, as stated by Alsos et al. (2013) and by Henry et al. (2016), it can be used 1) as a synonym for biological sex, just to offer a segmentation about differences between men and women regarding a specific subject; 2) as the central analysis of the research, considering how gender affects the entrepreneurial process (Alsos et al., 2013; Henry et al., 2016). In the systematic literature review conducted in the first

article, these two options had practically half of the analyzed papers each. Nevertheless, Alsos et al. (2013) indicates a third aspect, that is still slowly appearing: what are and how gendering processes influence organizations and systems. This reflects a shallow understanding of women's role, prone to a stereotyped conceptualization of women.

All these stereotyped views contribute to a condition in which women are often seen as less capable to achieve positive outcomes in startup ventures, because they lack the characteristics that a successful entrepreneur should have. Consequently, although the ambition of creating high-growth ventures is not substantially different between men and women entrepreneurs (Armuña et al., 2020), there is an inaccurate notion of female lack of ambition (Aernoudt & De San José, 2020; Kwapisz & Hechavarría, 2018; Balachandra et al., 2019), as they are believed to be risk averse (Verheul & Thurik, 2001; Lins & Lutz, 2016; Shukla et al., 2018; Yacus et al., 2019; Ewens & Townsend, 2020; Gimenez-Jimenez et al., 2020) or with a lower tolerance for assume risky positions (BarNir, 2012; Giotopoulos et al. 2017; Kee & Rahman, 2018; Kwapisz & Hechavarría, 2018; Xie & Lv, 2018; Yang et al., 2021), when, in fact, they limit costs and errors by analyzing their resources with greater care (Yang et al., 2021) and withdraw from volatile decisions (Yacus et al., 2019).

When it comes to women's ability to build and lead teams, it is again an unfavorable perceived disadvantage to female entrepreneurs, influenced by feminine-stereotyped behaviors (Edelman et al., 2018; Balachandra et al., 2019; Cicchiello et al., 2020). This reflects both on women's choices and on their trajectories, as gender discrimination also affects negatively in the relationship of female social networks (Xie & Lv, 2016). Women have less access to venture capitalists and even to new knowledge (Greene et al., 2001; McQuaid et al., 2010; Wing-Fai, 2016; Xie & Lv, 2016; Alakaleek & Cooper, 2018; Alsos & Ljunggren, 2017; Giotopoulos et al. 2017; Guzman & Kacperczyk, 2019; Gloor et al., 2020) because of the smaller size of women's network, which, consequently, restricts venture performance.

Hence, another toll on positive outcomes is the lack of funding and financial resources, which can be constrained by the propensity of male investors to invest in startups founded by other men as they feel more “similar” (Edelman et al., 2018; Giudici et al. , 2020; Ewens and Townsend, 2020; Guzman and Kacperczyk, 2019; Aernoudt and De San Jose, 2020) or simply because investors have a false perception that women-led startups are more conservative (McQuaid et al., 2010; Edelman et al., 2018; Shukla et al., 2018; Aernoudt & De San Jose, 2020).

Thus, more often than not, female entrepreneurs have to overcome gender biases (Xie & Lv, 2016; Balachandra et al., 2019; Guzman and Kacperczyk, 2019; Yang et al., 2020), deeply-rooted in our cultural entrepreneurship structure, and being reproduced by both men and women (Yang et al., 2020). Women need to build a path to overcome the barriers encountered in their way to achieve high-growth entrepreneurship. And, if the Schumpeterian entrepreneur (1934) and the Coasean entrepreneur-coordinator (1937) are reflected in the founder of a startup, the fact that a woman is running the startup impacts and creates a series of barriers for the startup as a whole. Therefore, this individual level of analysis becomes essential.

In this sense, the first article proposed a framework that conceptualizes the relationship between the categories frequently identified in the systematic literature review, which, when correlated, become dimensions of the barriers encountered by women on their path to developing high-growth companies, reflecting two pathways: individual factors and external factors (Juma & Serqueira, 2016; Neill et al., 2017; Del Bosco et al., 2019; Cerqueti et al., 2020; Audretsch et al, 2020a). These dimensions of barriers were used as a guideline to conduct this research, in order to understand how female founders of startups perceive them, and what strategies they use to overcome these barriers in the development of their companies.

2.1 Individual Factors and External Factors

Different authors explored the determinants of venture performance and innovation. Despite using different terms, two clear paths are identified in the research: one that focuses on aspects related to the entrepreneurial person, and another that relates to external environmental aspects.

For some authors, this designation is not straightforward. Audretsch et al. (2020a), for example, analyze institutional factors (i.e. corruption type, access to finance, and internal resources) that impact the innovation process, and how this relationship varies between women- and men-led firms. The biggest impact on the increase of innovation in companies led by women comes from the availability of resources, whether represented by the fiscal freedom of a country (external factors) or by the internal resources that the woman entrepreneur has at her disposal. Neill et al. (2017) analyzes “cognitive resources” effect on opportunity perception, and how it influences growth expectations of female startup founders. Thus, these resources are individual factors that affect entrepreneurs intrinsically. Del Bosco et al. (2019) analyzed contextual factors, (local density of universities and research centers, the education level of the local population, and the number of incubators in the area) and the effect of these factors on ventures with specific demographic characteristics (led by a woman, by a young person, or by a foreign-born entrepreneur). In this sense, contextual factors are environmental, while demographic characteristics are not something changeable, so they only serve as a research category.

Other authors, on the other hand, make a clearer distinction of individual and external factors. Cerqueti et al. (2020) use individual and business as control variables, in order to analyze both tangible (e.g. financial capital) and intangible assets (e.g. social capital, skills of opportunity exploration/exploitation). Under this definition, individual controls are explicitly related to characteristics of the entrepreneur, and business controls refer to environmental

demographics. In line with these authors, Juma and Serqueira (2016) built a conceptual framework that comprises both individual and external factors, displaying the relationships between the entrepreneur's human, social, financial and psychological capital and the economic and entrepreneurial environment.

2.2 Conceptual Models

The entrepreneurial literature outlines the importance of numerous factors for entrepreneurial success. When a gender lens and a focus on startups are in place, these factors become scattered through a wide range of assets.

Kee and Rahman (2020) research, for instance, on how gender influences Entrepreneurial Orientation (EO) practices on startup success, analyzes innovativeness, proactiveness and risk-taking. The authors state that EO practices vary between male and female entrepreneurs, and discovered that, in the Malaysian startup context, male entrepreneurs have a slightly higher chance of success when compared to female entrepreneurs. Male entrepreneurs had a higher variance on innovativeness and proactiveness, while they had a lower variance on risk-taking. Their findings are aligned with other studies (i.e. Ronay and Kim, 2006; and also Johansen, 2013), and at odds with other researchers (Tewari & Malhotra, 2014; Fellnhofner et al., 2016; Ong et al., 2016). Even though these practices are individual factors, the authors disregard the external factors when considering the reasons behind those results.

Xie and Lv (2018), contrariwise, focus on external factors, the shortage of resources and the lack of reputation for female tech entrepreneurs, attesting that a greater institutional support can diminish their barriers on the startup positive performance. Both factors have a negative effect on the performance of new ventures, leaving women entrepreneurs to seek to improve their ability to access resources and “break the shackles of resource shortages” (Xie

& Lv, 2018, p. 395), as they wait until greater institutional support is offered to balance and counterwork the greater obstacles that female startup entrepreneurs face. What the authors fail to consider is that these “shackles” cannot be broken without a deep cultural transformation, once that are other external factors at play.

Juma and Serqueira (2016), nevertheless, analyze both individual factors (Human Capital, Social Capital, Financial Capital and Psychological Capital) and external factors (Economic Environmental Constraints, Dynamism, Munificence/Hostility and Absence). The authors argue that the environment in which a female entrepreneur operates has a high effect on their ventures’ performance and sustainability. In this sense, individual and external factors cannot be isolated from the entrepreneur, especially when the entrepreneur’s gender is responsible for triggering a series of barriers that prevents said entrepreneur from accessing resources essential to venture development. And, although the environment’s effect on the performance of the firm can be strengthened, weakened or negated by the way the entrepreneurs experience their contextual environment, they still have to work within the context of their environment. As a consequence, it is not possible to isolate individual factors from the context they prevail.

Whereas being more complete, and especially for considering the reinforced relationships between individual factors and external factors, the framework proposed by Juma and Serqueira (2016) provides the basis for this study. The dimensions of barriers encountered are intertwined, constantly interfering in one another, which urge to deepen research about these dimensions.

2.3 Barriers to Female High-Growth Entrepreneurship Framework

An inductive methodological approach was employed in the construction of this framework (Juma & Serqueira, 2016). After all articles in the systematic literature review were

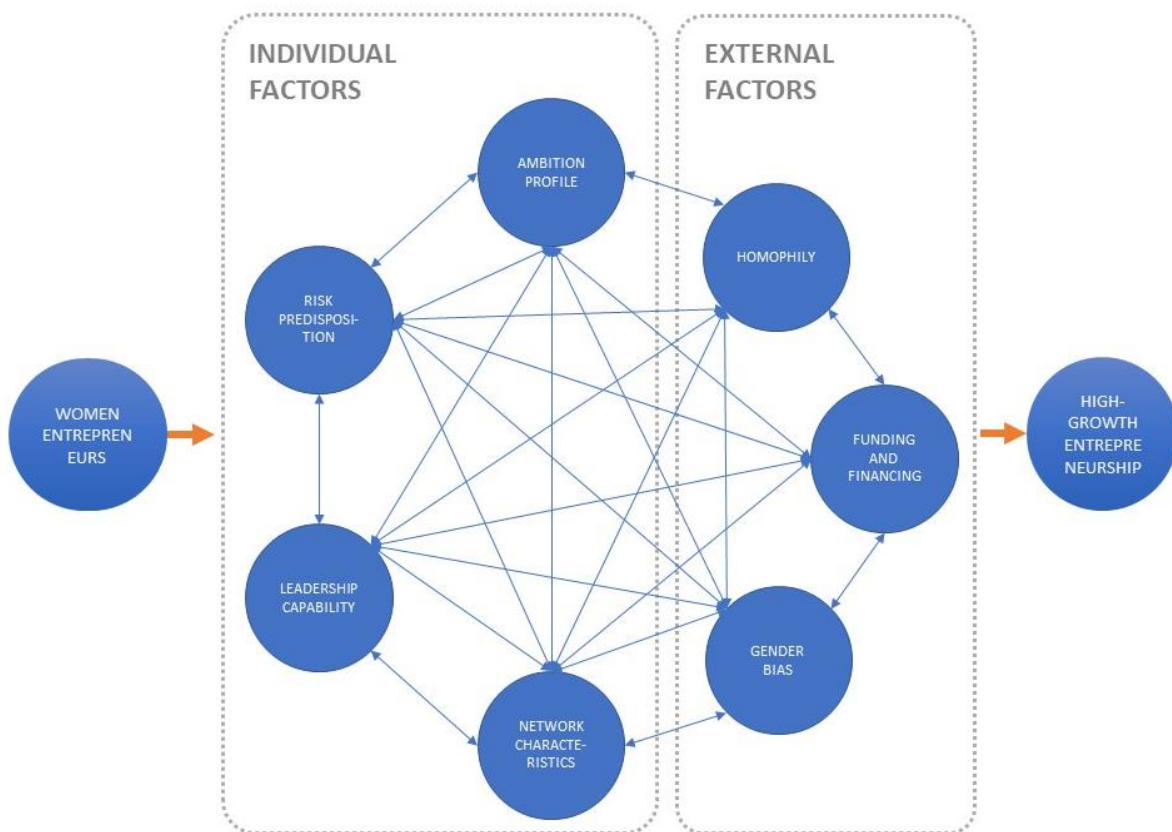
read, a segmentation of the recurring categories was performed in order to identify the most frequent themes. Seven key categories were identified, and contextualized based on the authors' definitions.

After contrasting these categories with conceptual models, the categories were divided into individual and external factors. On further analysis, these correlations between the categories became more clear, and the structure of this framework was proposed. However, when correlated, the categories reflect dimensions of the barriers encountered by women on their path to developing high-growth companies. In this sense, elucidating these barriers was not the aim of the study, but a theme that was over and over represented in the research.

When associated to individual factors, those that concern the entrepreneur, the dimensions of this framework are: Ambition Profile, the intention to build companies that are focused on fast and scalable growth, expecting high return on investment (e.g. Gundry & Welsch, 2001 and Guzman & Kacperczyk, 2019); Risk Predisposition, the willingness to assume risky positions when developing a new venture (e.g. BarNir and Gimenez-Jimenez et al., 2020); Leadership Capability, the ability to build and lead teams (e.g. Quintana-García & Benavides-Velasco, 2016 and Dai et al., 2019); and Network Characteristics, the specific aspects of the entrepreneurs' social networks (e.g. Hampton et al., 2009, Xie & Lv, 2016 and Alakaleek & Cooper, 2018). Furthermore, when associated to external factors, those that are out of the control of the entrepreneurs, the dimensions are: Homophily, the tendency of individuals to associate and form bonds with others like themselves (e.g. Alsos & Ljunggren, 2017); Funding and Financing, the lack of external funding, ingrained in the stereotyping of inept women (e.g. Greene et al., 2001 and Kuschel & Lepeley, 2016); and Gender Bias, discriminatory speech or behavior that causes inequity and injustice, specially towards women (e.g. Ewens & Townsend, 2020 and Shukla et al., 2018).

Therefore, after analyzing these dimensions, the following framework (figure 1) was consolidated. This framework presents the relationships between the individual factors and the external factors that emerged from the systematic literature review. In this perspective, it is imperative for female entrepreneurs to build up and develop individual factors and overcome external factors, so they can better navigate the high-growth entrepreneurship scenario.

Figure 1
Barriers to Female High-Growth Entrepreneurship Framework



Female entrepreneurs have to develop and strengthen individual factors, at the same time that they seek to overcome external factors, and both factors affect the venture's performance, in addition to interfering in other dimensions as well. Therefore, this study seeks to build on the understanding of the factors that restrict female founders in their way of building high-growth ventures, proposing strategies to overcome these barriers in the entrepreneurial process.

The next section presents the methodological procedures adopted in this study, the sample configuration and the data analysis, as well as a summarization of the characteristics of the interviewees.

3. Methodological Procedures

3.1 Research Approach

This research adopted an exploratory, qualitative methodology. It was conducted through online semi-structured in-depth interviews with eight Brazilian female startup-founders over a two month period. All interviews were conducted in Portuguese, following the script in Appendix II, and then the selected excerpts were translated and included in the analysis.

Prior to data collection, a systematic literature review was carried out by the author, which revealed seven key dimensions that form barriers to high-growth female entrepreneurship. Following this research, a semi-structured research script was designed, encompassing the seven key dimensions from both individual and external factors, and also with additional questions to gather entrepreneurial context and respondent's characteristics.

The names of the interviewees and the names of the startups were omitted, as well as any information that could contextualize the network or sensitive information from the interviewees. This was done to allow an interview without limitations, and that the interviewees could talk about their personal experiences in greater detail and without hindrance. The informality of the interview also allowed a safe environment for difficult experiences to be shared, allowing problematic stories to emerge, which is essential in the process of identifying perceived barriers.

Following Martin et al. (2015, p. 545), the participants were encouraged to tell their stories in their own words, which generates “significant quantities of source material, while aiming to avoid prescription or bias on the part of the interrogator”.

3.2 Research Interviewees

This research interviewed women founders or co-founders of startups that have gone through the formation phase and are already in the validation phase, selling their products or services. Based on the Startup Development Phases Framework (Startup Commons, 2015), the validation phase of startups has three levels: it starts with "committing", looking to validate its first viable product or service, moving on to "validating", testing the product or service to increase revenue, and reaching "scaling", focusing on sales to achieve high-growth. This segmentation is important because a startup in the formation phase is still in the process of conceptualizing its idea as a possible solution to an identified problem, and did not have enough time to begin structuring the firm. When contacted, the female entrepreneurs were asked which level their startup was at that moment. All eight startups were in the Validation Phase, both on Scaling or Validating levels.

[ADICIONAR AQUI OS CRITÉRIOS DE SELEÇÃO]

The process to find a group of women fitting the criteria was to undertake a search in LinkedIn, Instagram and Google. Altogether, 25 invitations were sent through these social networks. From this approach, only one invitation was accepted. At the same time, the author reached out to her own network and asked for recommendations of women who met the sample criteria. From this approach, 14 contacts were received, to which invitations were sent and 7 interviews were scheduled.

Therefore, due to the small number of women founders of startups and the difficulty of accessing them, a total of 8 women were interviewed. Besides them, 39 other female startup

founders were invited but could not participate. Table 1 comprises the characteristics of the interviewees.

Table 1
Interviewees Characteristics.

	Market	Main Product or Service	Start Year	Commercialization	Startup Level	Role
Interviewee 1	Edutech	Courses	2012	2014	Scaling	CEO
Interviewee 2	Ecommerce	Dresses	2014	2014	Scaling	CMO
Interviewee 3	Groceries on-demand delivery	Personal shopper	2015	2015	Scaling	CEO
Interviewee 4	Automated convenience stores	Technology for automation	2017	2019	Scaling	CMO
Interviewee 5	Edutech	Courses	2017	2020	Validating	CEO
Interviewee 6	Fintech	Factoring	2018	2018	Scaling	COO
Interviewee 7	Biosecurity	Security device for covid protection	2020	2020	Validating	CEO
Interviewee 8	SAAS	Compliance platform	2020	2020	Validating	COO

The interviews were scheduled and carried out through Google's Videoconference Meet. All interviewees agreed to record the interview for posterior analysis. On average, the interviews lasted 52 minutes.

3.3 Data Analysis

For conducting these semi-structured interviews, a research instrument was designed, consisting of a questionnaire, attached to the end of the paper, based on the seven key dimensions of the barriers encountered by women on their path to developing high-growth

companies: individual factors - (1) Ambition Profile, (2) Risk Predisposition, (3) Leadership Capability and (4) Network Characteristics - and external factors - (5) Homophily, (6) Funding and Financing and (7) Gender Bias.

Before starting the interviews, a pre-test interview was conducted with a female entrepreneur. This was done to analyze the quality and clarity of the questions. After all eight interviews were conducted, they were all transcribed. The transcripts were read and analyzed using manual thematic analysis (Braun and Clarke, 2012). At first, each one was read and listened again in full, where the most relevant sentences were highlighted. Afterwards, the answers to each question were grouped, in order to notice recurrences between the answers. As the answers were around the seven dimensions arisen by the structured framework in the first article, the responses were mapped inside these dimensions (some interviewees answered some questions within other contexts) and then a conceptualization was made for each dimension.

After this step, the interviews were read again separately, in order to find answers that could be mixed with other questions. Some sentences were rearranged, as they encompass another topic. As the questions were focused on each of the dimensions, this made the categorization of responses more objective. Thus, it was possible to build an alignment between the responses. Afterwards, a correlation was made with authors who corroborated or contradicted what was said by the interviewees. The results of this analysis are presented in the next section.

In a second moment, a review was made of this conceptualization, to draw a more objective analysis about the characterization of each dimension of barrier and the strategies used by the female high-growth entrepreneurs interviewed to overcome these barriers. This analysis is presented in the section after the next, called “Proposition of Strategies to Overcome Barriers”.

4. Findings and Discussion

This section presents the findings and discusses the dimensions of the barriers encountered by women on their path to developing high-growth companies, as viewed by the female startup-founders interviewed by the author.

4.1 Individual Factors

4.1.1 Ambition Profile

“As it's much harder for women, because they have to really fight harder and have to ‘sweat’ more to maintain the same position (*as men*), they tend to do something more connected to what they personally believe. It's a much tougher battle, so you have to have this additional motivation, because otherwise you're going to take a lot of ‘waves in your head’.” (Interviewee 8)

When talking about startups, one tends to usually talk about technology. In this sense, the interviewees point out that the startup scenario ends up being mostly male, historically speaking, which creates a barrier for women in the technology sector and in leadership. This undermines a woman's confidence to enter and remain in innovation-related careers. Words such as "self-confidence", "empowerment", "credibility" and “visibility” were frequent in the interviewees' speeches. Interviewee 3 states that starting a business and making it grow fast is a challenge for both men and women, “but surely for women it ends up having this impact of the lack of credibility that women have to reach success”.

This “emotional barrier” has an impact on the entrepreneurial process. Interviewee 1 adds to this point of view: “Women have the intention (to create a scalable venture), they just

don't have the confidence to execute it, in my opinion. The intention is not the problem, but, rather, the courage to follow through". In general, it is not that women do not focus on growth, but they rather think about the startup and the market in a more holistic way. As stated by Interviewee 5, women are very ambitious, but their intentions are related to a more comprehensive understanding of their results: not just about their financial results or the achievement of goals, but also about their team and about understanding the market and customers in a deeper way. Consequently, the time women take to conquer their startup goals may be slower than the average, but it carries a greater knowledge of the whole process and its actors, and, as Interviewee 6 indicates, possibly with less failures.

This is also seen by interviewees as a different focus on what brings value to the business model. The interviewees point out that one of the main differences between women and men is that, while women entrepreneurs care much more about creating businesses with purpose and connection to society, men entrepreneurs focus on quick return on investment. It is possible to notice two distinct situations in their speech: the fact that the purpose is the driving force to keep women in the startup's entrepreneurial process, and the female intent primarily focused on solving the customer's problems and needs over the development of the startup's main product.

Purpose impacts startups growth directly. As indicated by Interviewee 6, if the entrepreneur is not sure about their purpose and their company's purpose, they will not stand this endeavor. "Nobody can scale up a startup significantly without a purpose", she adds, and implies that setting a company's purpose comes a lot from the female perspective. In line with this affirmation, Interviewee 2 also declared: "The few women who are in that position (as leaders of a startup), I see them building startups with a higher purpose, not just a matter of technology or scale". Interviewee 7 has a similar perspective and stated that the establishment of a purpose keeps women enduring in entrepreneurship, and, without it, it becomes just a

regular job. When an entrepreneur works with something they really believe in, well beyond financial results, they can go through negative periods without being affected, as it is a strong motivation, indicates Interviewee 8.

Another recurring perspective of the interviews is that female entrepreneurs constantly seek to have a more integrated view of their company. Women tend to care about the customer experience. "A man creates a product, a woman solves a problem. Scalability is the consequence of the observation of solving a real problem", says Interviewee 4.

Ambition is not a male profile. More than the intention of having a growth-oriented venture, it is important to perceive the intrinsic characteristics of this endeavor for a woman. As innovation theory has been shifting its focus from product and process point of view to a service and knowledge economy (Ranga and Etzkowitz, 2010), it is a good strategy to use the resources at hand to better understand the customer and to create products and services more validated by the market, in opposition to a product-minded approach. This is in line with the lean way of building startups, where the steps are incremental and constant learning, always validating in the market, with customers, if the implementation is a valid hypothesis (Blank, 2013; Ries, 2012).

4.1.2 Risk Predisposition

"Entrepreneurship is the most insecure thing there is, look at the number of companies that go bankrupt in a country like ours..." (Interviewee 1)

Risk predisposition is a condition for entrepreneurship. Thus, "creating a startup is a risky decision in itself", as Interviewee 8 said. In general, the interviewees point out that men take more risks and women are more restrained. This is not an imperative condition, but, more than that, a product of social construction. Women ponder their decisions more, mainly

because, culturally, the entrepreneurial process, among other situations, is more disadvantageous for female entrepreneurs. Interviewee 5 comments: "It's as if the price we have to pay for making the wrong decision is higher, because we assume greater responsibilities."

The fact that women have a more holistic view of the context makes them weigh decisions more, as they consider employees, family, resources, among other things. The social structure and the structure of entrepreneurship instigate this female behavior. In this sense, the interviewees indicate that men end up risking much more, as generally they have more self-confidence and less roles are expected of them. Women diminish their capacity, being more reticent and restrained, and evaluate the consequences. As a result, because of this fear, women can miss more opportunities and fall behind. It takes risk for a company to grow, especially when it comes to rapid growth. Interviewee 2, in particular, indicates that perhaps less confidence in taking risky decisions had an impact on the startup process; maybe if she had a male partner, he would be more confident to go a step further. This more conservative profile can make the entrepreneurial woman lose the timing of decisions. Nevertheless, Interviewee 4 indicates a positive side of this matter: women are slower to grow but more stable. As men risk more, they end up changing faster, pivoting before they should. "A man seeks to run to be a unicorn, a woman wants to be first a camel and then a zebra"⁷, she states.

Another element indicated is that this self-confidence in taking risky decisions is directly connected to a person's social background, especially regarding finances. People with poorer backgrounds tend to be more afraid to make riskier decisions when it involves money. Interviewees 2 and 8 state that generally women have less privilege than men, and culturally, women face much greater disparities and difficulties involving financial structure and access

⁷ Colloquial references to startups models, where unicorns are startups worth over a billion dollars, often using a growth-at-all-costs strategy; camels are resilient, as they are able to survive lack of resources for long periods and adapt to variations in the scenarios; zebras focus on growth without leaving society improvement behind. For more information, see <https://www.forbes.com/sites/sophiamatveeva/2020/02/25/zebras-and-camels-new-alternatives-to-silicon-valleys-unicorn-obsession>.

to finance. With more privileges, it is possible to have greater freedom in decision making and to take more risks. Additionally, men are more self-confident about taking any kind of risk, because of our patriarchal culture, as stated by Interviewee 2, from talking without being so sure (in a presentation or meeting, for example), to believing that they will achieve the result expected. “Women have the intention to grow their ventures, they just don't have the confidence to execute. To be leading a startup, you need self-confidence, something I don't see women having”, affirmed Interviewee 1.

Interviewees also indicate that the inexperienced man makes decisions without considering the results. “When he is more experienced, he makes decisions based only on his experience”, says Interviewee 7. Thus, men do not validate their ideas as often, whereas women make decisions more sparingly, but especially because they seek validation from the market, more than their professional experience. They seek to optimize risk rather than risk, and this requires even more energy from the woman. However, taking risks seeking validation makes the steps taken more information-based than feeling-based.

Interestingly, this is an intricate arrangement. If women wait too long, they can lose money and opportunities. But, if they take action too soon, it can lead to strategic errors and loss of money too. As Interviewee 7 points out: “If you don't have this professional maturity, you end up losing the opportunity, getting frustrated, and getting into debt.”. Consequently, a more feminine approach to making decisions based on an understanding customers' needs may take longer to take effect, but it results in better decisions and avoids the loss of money. Interviewee 4 also commented on this topic, saying “I think it's something more women-like to want to listen, talk, and sit down (with the customer). Men don't like to talk to anyone, they want to put things into practice and that's it.”. Interviewee 7 also drew a parallel with their clients: the female client takes longer to close the deal, but is more faithful. Meanwhile, male

clients close deals much faster, but end up being more unfaithful, as they want to switch to other deals faster.

Authors indicate that women are regularly viewed as risk averse (Verheul & Thurik, 2001; Lins & Lutz, 2016; Shukla et al., 2018; Yacus et al., 2019; Ewens & Townsend, 2020; Gimenez-Jimenez et al, 2020) or having a lower tolerance towards taking riskier decisions (BarNir, 2012; Giotopoulos et al. 2017; Kee & Rahman, 2018; Kwapisz & Hechavarría, 2018; Xie & Lv, 2018; Yang et al., 2021), but it seems that female founders of startups have to overcome such predispositions to take this place in a C-level of an innovative venture, as this is a condition to growth. Nevertheless, they can learn to navigate in these complex conditions by analyzing and weighing their decisions assessing the variables they believe to be of greater importance within their environment.

4.1.3 Leadership Capability

"You can have greater talent retention when you understand human beings." (Interviewee 4)

In the interviewees point of view, the difference in the capability to lead resides more in different profiles than in the gender of the leader. That is because they see different leadership profiles in both men and women. "(The capability to lead) is much more related to your profile and competence than to your gender", stated Interviewee 1. In order to create and develop a venture that seeks growth, there has to be a leader and a team to achieve the proposed scalability. As Interviewee 6 says: "There is no alternative but to develop a strong team".

However, the way in which the team is managed was highlighted. In general, the more holistic way that women act in relation to the ambition to grow and taking risky decisions also acts in the capacity of leadership, creating a relationship between leaders and employees more human and more sensitive. "(Women) are born being leaders", indicates Interviewee 5,

reinforcing the perception that the more universalist view of women comes from a cultural context, in which women need to exercise roles that compel them to take this position. In this sense, women's actions towards their subordinates go beyond motivation for goals and demand for results, focusing even more on integration and on moments of connection. This creates a safe space, which allows for greater transparency among team members, which, consequently, motivates them to be in the job not only for the payment, but because they believe in the company's purpose and discourse. "I feel that people are looking for leadership that they can also relate with.", states Interviewee 8.

Another aspect highlighted is the role of women as caregivers. Interviewee 2 talks about how the company's employees are committed and like "where they are", largely due to the relationship with female leaders. And she adds that this is due to the characteristics of these leaders, which are largely reflected in their female characteristics as caregivers. Interestingly, Storey et al. (2011) point out that the role of caregiving women is a direct result of our culture, not being something biological, and it is the result of expectation of long term caregiving from women. Men who were placed in caring roles (such as single fathers or sons who care alone for elderly parents) developed the same characteristics as women in these positions, even in the hormonal aspect. Therefore, this is not a condition of the biological sex, but a role that is normally given to the female gender. Nevertheless, nature has an active effect on anyone that is given this role.

The interviewees also commented that, if, on the one hand, the greater sensitivity of noticing nuances makes the employee feel more welcomed, on the other hand, the female leader needs to perceive and set clear boundaries, as this can end up becoming something negative (when an employee ends up improperly overstepping the given freedom). This more balanced profile "impacts on the organizational climate, which impacts on productivity, which impacts on results", as Interviewee 4 says.

4.1.4 Network Characteristics

“Women don't know how to do this. You can write quite large in my statement: women don't know how to do this; they are learning. And I include myself in this package.”

(Interviewee 6)

The profile of the interviewees included, in general, women that are active participants in startup ecosystems. Consequently, all interviewees indicate that they have more professional contacts than close friends and family. This is unaligned with what was found by Wing-Fai (2016), Xie and Lv (2016) and Alakaleek and Cooper (2018), that female startup entrepreneurs usually have smaller networks related to business. In this case, the environment ended up impacting and making this group of interviewees have more access to networks. As Interviewee 4 states, “Entrepreneurs without a network don't move.”. The interviewees also do not find less access to these spaces, as indicated by Del Bosco et al. (2021), but attest that they need to make a greater effort to belong to these environments. Once again, the barrier is not just for entry, but for permanence.

When the female entrepreneur is not in a management position, working more closely on the operation, she ends up looking much more to the tactical and operational side of the company than to the market, and this can impact the woman's number of contacts. This is clear in the incisive state of Interviewee 6: “Women don't know how to do this. Women don't know how to sit in a place, order a beer or a sparkling wine, or whatever she wants to drink, and close a deal. We are always in the 'compulsion' of production, that we have to be productive, that we have to deliver.”

Time spent on social networking events and initiatives also wastes energy, which does not always end up being the priority. Participating in social networking initiatives impacts the

startup's success in several ways. Especially with regard to startup ecosystems, the number of contacts and the work carried out can influence professional development and the expansion of the network of contacts. “The advantage of these spaces is that they are very collaborative,” stated Interviewee 1. Giotopoulos et al. (2017) indicate that these connections bring advice, support, and access to resources which are helpful for the startup. Living with different realities and different knowledge from other contacts makes the entrepreneur learn paths that she does not need to take. All Interviewees agree that this exchange creates advantages in the entrepreneurship process.

Regarding groups focused on female networking, Interviewee 5 points out that these movements are perceived as still placing women on the sidelines. Women have a very large historical gap to bridge, where men have been more used to talking about business and money for much longer. As a result of the expectations of female roles, women still mix these expectations in the conversation, talking about subjects that are far from the business world, like “makeup and personal image” or “weddings and honeymoons”. Interviewee 6 specifically says that there is a lack of female experience “to get used to and learn to navigate in this context”. Interviewee 3 corroborates this, saying that often groups of women end up adding "more personal issues to the conversation" than groups of men.

The interviewees point out that being present in contact networks gives them more access to investors and referrals. However, two interviewees pointed out how the covid-19 pandemic ended up having a great impact on professional networking. In the case of Interviewee 2, as the company had to shrink its operations during the months of isolation and quarantine, the members retreated more to contacts with family and friends than with professional contacts, which impacted the network at the time of the interview. “It is very feminine to give importance to the private time in such a busy life, (...) why am I going to do business on a Thursday night if I can go and see my mother?”. The comment of Interviewee 7

corroborates this finding: "If you asked me this question two years ago, before the pandemic, my answer would be different." The pandemic had a particular impact in the interviewee's life, and thus influenced her intention to meet new professional contacts.

4.2 External Factors

4.2.1 Homophily

“For me, the basic premise of innovation is diversity. If we don't learn to navigate these differences, we won't innovate" (Interviewee 6).

Homophily is the tendency of individuals to associate and form bonds with others like themselves (Giudici et al., 2020, Alsos & Ljunggren, 2017; Wing-Fai, 2016). When analyzing the startup networks and associations to which the interviewees belong, it is not something they can choose with whom to connect. There are fewer women in the innovation and startups scenario, and, as a result, fewer possibilities for connections. Therefore, it is with men that they, in general, end up doing business. However, when they have a choice, the situation changes. “When I choose, it's more with women than men.” says Interviewee 1. It depends “to what extent I can manage the formation of these networks”, she adds. “Money needs to circulate among women”, states Interviewee 2. The presence of more women is increasingly latent, allowing a choice to exist. “I make a much more intentional effort to talk with other women in the market”, says Interviewee 8. It is not necessarily a choice just for the same gender, but often also for a desired personality. “I end up having a predilection for empowered women working with me,” says Interviewee 1. Interviewees 2 and 5 have a similar view. “The women I have relationships with, who are also from my work environment, are very strong women. So they are fewer, but they are worth as many," says Interviewee 5.

Other interviewees, however, point to a certain disregard for the “overly emotional” side of women. “It ends up bringing a slightly immature side”, states Interviewee 7, adding that she believes this an expected part of the process, as women are used to talk about their personal life more often than to talk about their businesses. Interviewee 3 indicates that the objectivity necessary for the business is too important to be “invaded” by the emotional aspect, and that this ends up distorting the conversation that should be focused on practical matters of the entrepreneurial process.

In general, bonds formed with men are more a result of quantity, while bonds formed with women are the result of an intentional process. Interviewee 1 explains that she ends up worrying more about connecting and helping women than men, which influences the reduction of the network gap that women have. This, added to the fact that the number of women in the startup environment is increasing, makes the network gap (especially for investors) to decrease. And it also ends up encouraging more women to participate in the startup scenario, indicating a "preference for equality", as pointed out by Interviewee 5.

Interviewee 8 says that she sees that other companies seek her venture because "they are looking to work in companies with women or diverse leaders, that is, leaders who are not only white and straight men". Interviewee 2 states that this choice is nothing more than an act of resistance, since men have had their voices heard for a long time. “The women I've had a business relationship with, bring me an even different strength because they bring me reassurance”, indicates Interviewee 5. When there is the possibility of doing business with women, there is a need to be more focused on the business itself than on a friendship relationship. However, Interviewees 1, 3, 4 and 5 indicate that women generally go beyond the purely professional relationship, seeking friendships in the process. This can be positive, because of the trust created, and also negative, when objectivity is lost.

4.2.2 Funding and Financing

“‘We don't invest in women’. I heard this (when searching for investment).” (Interviewee 4)

The interviewees indicate that there is no difference in the ability of men and women to get investment. But there is definitely a shorter access for women. “Men are taken much more seriously, because those on the other side of the table are usually other men”, says Interviewee 1. Here, the funding and financing and the gender bias dimensions mix up. Interviewee 4 says that male investors believe that the return on investment is more guaranteed with other men than with women. “There is prejudice, there is distrust. They prefer men.”, says Interviewee 4. “It is not a question of capacity, it is a question of bias”, adds Interviewee 8. Interviewee 5 adds that this is a cultural issue, so it will likely be reflected in the investment process. This trend seems disconnected from reality, as a study shows that startups founded and co-founded by women return 78% per dollar invested, while startups founded only by men return 31% per dollar invested (Abouzahr et al., 2018).

It is inconceivable to act with a gender bias in an explicit way. “It's not necessarily in words, but in attitudes”, explains Interviewee 3. Because of this veiled discrimination, many women give up on the entrepreneurial process. Interviewee 4 tells that she went through a situation where investors seemed surprised to have a woman in their investment portfolio. She asked if the investment had to do with gender, to which investors said “No, you know, women (have their time) divided with their children... It's not the same thing as men...”. This type of situation demonstrates that investors still weigh the roles of women demanded by society, even if this is not clear in the investment process.

Interviewee 6 points out how important it is for women to have a strong knowledge of the financial market, and the enormous impact this has on investment rounds, even so that they

do not do deals that are bad for them. This even impacts the construction of assets for individuals, as it enables a better return on the investment of the female founder in her startup. Investors are more careful when dealing with men than when dealing with women. "I think they understand this lack of experience and they take advantage of it.", Interviewee 6 adds. "If you are fragile, men end up using your weaknesses to destabilize you", adds Interviewee 7.

Interviewee 2 returns to the self-confidence of women entrepreneurs. Without a strong sense of self-confidence, women are more afraid to ask for investment, to take a stand, to participate in spaces where business takes place. This is in alignment with the research that points out the lack of women's confidence in their entrepreneurial capabilities (Verheul & Thurik, 2001; Kwapisz & Hechavarría, 2018). "Unfortunately, women have this much stronger impostor syndrome", indicates Interviewee 1. In this sense, Interviewee 4 points out: "The big deals are not closed at work. They are closed at the Golf Club, on a boat, drinking whiskey. And women still do not feel at ease in these places.". Interviewee 3 says that age also influences, so being a woman and young has an even greater impact. Interviewee 1 adds that some women withdraw from the negotiating position so that the company can move forward. Additionally, with fewer women invested, there is less possibility of having more women investors.

In general, the interviewees indicate that the gender bias in investment is getting smaller, apparently because women are consistently learning more about business and gaining essential knowledge for their ventures development, so it has become increasingly difficult to "explain" the bias. When women gain space, differentiation diminishes. There comes a point where, after putting in a lot of effort, the results come, as pointed out by both Interviewee 3 and 4. More than that, external recognition fuels motivation.

Interviewee 2 and 4 also talk about the process of investing in companies founded by women as a marketing strategy. Interviewee 2 adds that it is in fashion. Investment funds are

investing more in causes for women, black people, LGBTQIA+, sustainability, among others, because they know that these causes are increasingly strong and, therefore, are able to sell more. As a result, it is no longer possible to ignore this context. Interviewee 4 points out that this can depreciate the company, since the intention is not to invest in a company with potential, but only in a company led by a woman.

4.2.3 Gender Bias

"They feel confident about everything, including abusing a woman on the stage during a presentation."

(Interviewee 2)

From the lack of investments to the systemic sexism perpetuated by men, the interviewees indicated gender bias in several situations that occurred in their years as entrepreneurs. Interviewee 2 shared a story of a business event where she, on stage at the presentation, was sexually and morally harassed by another participant in the presentation. Interviewee 7 also says that she has been through a situation of harassment in a meeting, and that was so traumatizing that she decided to not actively seek for investments after that.

Often, to close deals, people need to seek a friendship connection. Men manage to do this much more effortlessly, for instance, when inviting a business partner to a concert or a trip. A woman cannot propose such things to men. "If she does that, it will seem like she's trying to have a date with the man. So we lose that necessary emotional bond sometimes, because society says we should act like that", adds Interviewee 7. This impacts the entrepreneurship process, as the process of clarifying the situation before seeking to close the deal involves time and energy. Hence, women end up taking more time to close deals, which impacts the speed of company growth.

The aforementioned situations and other recurrent derogatory ones impact women's self-esteem. "Can you bring coffee?", an executive at the same level of Interviewee 5 asked her, the only woman in the meeting. "You get a little insecure, it undermines your confidence," she adds. Interviewee 4 went through a similar situation, and heard that it is surprising that a beautiful woman knows numbers. "It's almost impolite to show up and demonstrate that you know what you're talking about", adds Interviewee 3.

Three of the interviewees commented on a particularity involving their age. Being young, in addition to being a woman, has an even greater impact. A recurrently used resource is the infantilization of women. "The little girl from the app" - that is how Interviewee 3 was called by her clients, and adds that this feels disrespectful. Interviewee 2 also pointed out this use of the "nickname". She says that it seems "cute" to work in clothing and fashion, so they are called "little girls". On the other hand, men would not be called "little boys" at a meeting, for example. "It took a while for people to respect us as business people," she added. Even though it is an expression used as a compliment, it is possible to see the "teasing". Interviewee 8 went through exactly the same situation, and commented how much this is a question of credibility. "If you are a young man, you are a visionary; if you are a young woman, you are a little girl", she added.

Women are tested all the time, from their emotional and rational capacity to their ability to handle the money invested. "For the simple fact that a man is at the head of the company (*it is understood*) that the man had the capacity to do that work. And the woman has to demonstrate this in other ways." pointed out Interviewee 3. This is clear in the speeches of the interviewees:

"You have to really show that you are as good as they are (...), you have to mark your territory, show what you came for and reach a certain level to be recognized" (Interviewee 4).

“It is so common that we are already used to showing more effort to achieve (*the same success*). A woman will always have to run a little further. We know that we will have to work harder in business” (Interviewee 3).

“Several times I need to defend myself with my academic credibility, with my knowledge. So every now and then, if I'm not being listened to, I have to enforce respect using my knowledge.” (Interviewee 6).

As a result, women seek a much higher level of knowledge to balance their self-confidence and the market's perception of their ability. It is as if the bigger ladder of knowledge is needed to cross the gap, a constant need to reinforce their track record, awards, diplomas. And also as if only men can talk about money and business. “(Prejudice) is more latent in technology, investment and innovation fields because they are areas where there is a very large discrepancy between men and women (...). There are few women in these fields, but these women speak up. If they didn't, they wouldn't be there”, states Interviewee 1.

Respondents want to be respected by who they are, not by their partners, the ecosystem they are involved in, or their business partnerships. “There are specific issues on issues of gender disparity, discrimination, inequality. Obviously, a person who has already been through this will understand much better.”, states Interviewee 8. Analogous to this scenario, Giotopoulos et al. (2017) indicates that a person's belief in their ability to achieve venture growth and positive entrepreneurial outcomes is called self-efficacy, and it plays an important part of entrepreneurial activities. “A lot of my time is spent on self-knowledge and (developing) maturity”, says Interviewee 6. Men use different resources than women to achieve their

objectives. Women, in this sense, need different tools to get to the same point as a man. And women have a much greater path of acceptance and affirmation than men.

In this sense, it is interesting to notice that sometimes there is a certain incongruity in their speeches. The same interviewee who says she does not see prejudice in the startup world says that she heard from investors that they do not invest in women. Or the same interviewee who says she has privileges because she does not need investment says she was harassed during an investment round, and that made her stop searching for investments. It is possible that, unconsciously, the interviewees themselves do not perceive the impact of these moments on their entrepreneurial process. Questioning these events made them consider this possibility. As Interviewee 6 infers, “you are so immersed (in this cultural context) that you think this is normal”.

Within the expected roles of women, being a mother is something that appeared in some interviews. Time for their children, or the decision to move to another city, are factors that impact on female “guilt”, as pointed out by Interviewees 4 and 6, both mothers. As pointed out by Interviewee 7, “A woman has other obligations to which she sacrifices and directs her life”. This is clear in the story told by Interviewee 6, who made a significant change in her life. She has a son and moved to another city to participate in an ecosystem with her startup. This required an extremely conscious choice for her, as she would not want to become a frustrated professional, which would make her “a terrible mother”, but also struggled with the decision. “A man living away from his son to be an entrepreneur is normal. A woman is abandoning her child.”, she adds. Interviewee 4 also comments that the woman feels very guilty by dedicating a lot of her time to work and not to her family. “I think women feel more guilt than men. That gets in the way”.

In addition, Interviewee 1 adds that, having been married to one of her business partners, she was often seen as “the wife”, rather than a partner or as part of the management

team. She states that this happens recurrently in the startup market, where the man, the CEO, is seen as the leader, and the woman, who is also in a C-level position, is seen as someone "who helps" her husband's business. Interviewee 5 also talks about this scenario, correlatively, when she comments about her clients in the agribusiness market. After an extensive study with several companies in the sector, which is composed of many family businesses, she realized that many of the wives were in charge of the company's strategic decisions and took care of all the company's finances. Regardless, they were still seen as "the wives," not the leaders.

5. Proposition of Strategies to Overcome Barriers

For women to be successful in high-growth entrepreneurship, it is necessary to create and implement strategies to overcome the aforementioned dimensions of the barriers encountered by women on their path to developing high-growth companies. In doing so, women may be able to conquer even more space, and to become role models for other women starting new technology and innovation ventures. Based on what was identified in the interviews, it is possible to detect characteristics of the dimensions analyzed and outline a series of actions that can help women in creating and growing a startup.

Table 2

Strategies women use to overcome barriers.

Framework Dimension	Dimension Characteristics	Strategies women use to overcome barriers
Ambition Profile	<ul style="list-style-type: none"> ● Women have growth ambitions, but are affected by a lack of credibility that, in turn, undermines their confidence to follow through. ● Purpose is important to enduring high-growth entrepreneurship. 	<ul style="list-style-type: none"> ● Establish a clear purpose at the very beginning of the project, which allows for a strong groundwork and motivation for the startup's development. ● Commit to a holistic approach to the business, especially regarding understanding the customer's needs, their journey and their experience.
Risk Predisposition	<ul style="list-style-type: none"> ● Women ponder decisions more, as a product of social construction. ● Self-confidence in taking risky 	<ul style="list-style-type: none"> ● Develop a stronger self-confidence, and dampen fear, so financial results and growth can come faster. ● Analyze and weigh decisions

	<p>decisions is directly connected to a person's social and financial background.</p> <ul style="list-style-type: none"> ● A good timing perception is essential for taking risky decisions. 	<p>assessing the variables believed to be of greater importance within the environment, without overbearing them.</p>
Leadership Capability	<ul style="list-style-type: none"> ● Difference in the capability to lead resides more in different profiles than in the gender of the leader. ● Women's greater sensitivity of noticing nuances makes the employee feel more welcomed. ● Female leaders need to perceive and set clear boundaries, as this can end up becoming something negative. 	<ul style="list-style-type: none"> ● Balance sensitivity and boundaries to optimize and enhance team development. ● Detach from the mandatory role of caregiver given by society, focusing on clear and cohesive communication and establishing a systemic view of the team and employees.
Network Characteristics	<ul style="list-style-type: none"> ● Less access to startup ecosystems and networking spaces. ● Women lack experience in networking. ● Being part of the operational part of the startup can make women overlook new connections. 	<ul style="list-style-type: none"> ● Take a proactive approach to connect with other professionals from the market in which the startup operates, as this impacts the company's growth and success. ● Detach more personal conversation from business-focused interactions and networking moments, in order to learn and receive information that is most relevant to the venture's success.
Homophily	<ul style="list-style-type: none"> ● Fewer women in the innovation and startups scenario, resulting in fewer possibilities for homophilic connections. ● Bonds formed with men are more a result of quantity, while bonds formed with women are the result of an intentional process. 	<ul style="list-style-type: none"> ● Use homophily intentionally, to strengthen women's presence and participation in the startup scenario. ● Maintain objectivity in business relationships.
Funding and Financing	<ul style="list-style-type: none"> ● Shorter access for women for investments. ● Veiled discrimination causes women to give up on the entrepreneurial process. ● Investors still weigh the roles of women demanded by society. 	<ul style="list-style-type: none"> ● Work on self-confidence and impostor syndrome. ● Acquire knowledge about the financial market, valuation and fundraising rounds.
Gender Bias	<ul style="list-style-type: none"> ● Gender bias is present in several situations. From misinterpreted invitations to situations of sexual abuse. ● This impacts women's self-esteem. ● Women have a much greater path of acceptance and affirmation than men. 	<ul style="list-style-type: none"> ● Be resilient in a very consistent way. ● Resist the replacement and suppression of femininity, so as not to suffer discrimination. ● Disempower the guilt and expectations placed on women for roles they need to play in life.

This section presented a characterization of each dimension of barrier and the strategies used by the female high-growth entrepreneurs interviewed to overcome these barriers. The last section presents the conclusion of this paper, as well as its contributions, limitations and propositions for future research.

6. Conclusion

The development of technological and innovative ventures has been, predominantly, a male activity (Hampton et al., 2009; Shukla et al., 2018). Although there is a definitely growing number of women in the startup scenario, there is still a slow transition to a more egalitarian setting (Ranga and Etzkowitz, 2010), even though feminine characteristics of entrepreneurship are underestimated (Manolova et al., 2007; Bigelow et al., 2012; Martin et al., 2015; Thébaud et al., 2015; Wing-Fai, 2016; Edelman et al., 2018; Guzman & Kacperczyk, 2019).

As stated in the first article, the categorization of the topics recurrently identified in the systematic literature review were correlated to create a framework that elicits dimensions of the barriers to female high-growth entrepreneurship. These dimensions reflect the two paths that affect their development, according to the theoretical structure of the entrepreneurship literature (Juma & Serqueira, 2016; Neill et al., 2017; Del Bosco et al., 2019; Cerqueti et al., 2020; Audretsch et al., 2020a): individual factors (ambition profile, risk predisposition, leadership capability and network characteristics) and external factors (funding and financing, homophily and gender bias).

Through interviews with eight female startup-founders, this investigated how individual and external barriers relate to the process of creating a high-growth venture and how they can be overcome in the entrepreneurial process. These barriers impact women in numerous ways. For instance, even though women have growth ambitions, they are affected by a lack of credibility that undermines their confidence to persist in entrepreneurship. To

withstand this path, it is important that they develop a strong sense of purpose. And, as a by-product of cultural predisposition, women tend to ponder their decisions more. Self-confidence also impacts female risky decision-making, and is better supported depending on the person's social and financial background, as well as the person's timing perception. Leadership is also a particularly important aspect of female entrepreneurship, residing more in different profiles than in the gender of the leader. Women, nevertheless, have greater sensitivity of noticing nuances and connecting with employees, although, on the other hand, this sensitivity can end up becoming something negative, if they fail to perceive and set clear boundaries.

More than that, women also have less access to startup ecosystems and networking spaces, and that undermines their experience in networking, which is already scarce. It is important that women pay attention not to overlook new connections when taking care of the operation of the startup. Besides, if there are fewer women in the innovation and startups scenario, then there are fewer possibilities for connections, and it causes more bonds formed with men (because of quantity), while bonds formed with women are the result of an intentional process.

Another well documented barrier for women is their shorter access to investments. It is a veiled discrimination, caused by investors tendency of weigh in the roles of women demanded by society. This ultimately causes women to give up on the entrepreneurial process, as gender bias is present in several situations. From misinterpreted invitations to situations of sexual abuse, and this impacts women's self-esteem, causing women have a much greater path of acceptance and affirmation than men.

Consequently, it is proposed in this paper a series of strategies that can help women to overcome barriers to high-growth entrepreneurship. Paraphrasing Etzkowitz (2007) in his study of women in science, here it is also possible to resolve these Athena's paradox, since, by exposing gender inequalities and proposing strategies to overcome these barriers, it is possible

to encourage a greater presence of women in these fields of innovation and technology, increasing the growth possibilities of their companies, and, consequently, boosting economic development as a whole (Schumpeter, 1942; Baumol, 1968; Acs & Amorós, 2008; Acs et al., 2008; Autio et al., 2014; Audretsch, 2018).

From a theoretical point of view, this paper contributes to the literature on entrepreneurship, particularly about the startup context, by identifying how the dimensions of barriers to high-growth entrepreneurship affects female startup entrepreneurs, and presenting objectively their strategies to overcome these barriers. The expansion of the knowledge about said dimensions, which occurred due to the use of in-depth semi-structured interviews, enabled the categorization of each dimension through the perception of female startup entrepreneurs, and also an outline of strategies they use to overcome these dimensions of barriers. Women need these barriers to be very clear and noticeable so that it is possible to overcome them. More than that, they need to realize that it's not a private setting. The low number of female startup founders, especially in the validation phase, creates a false impression that they are facing and discovering these barriers on their own. In this research, it is possible to notice, although there were no simultaneous conversations, that even in different states, women go through similar situations. By understanding this scenario, women can look for ways to learn from each other on the path of high-growth entrepreneurial development, and, understanding the ins and outs of each dimension, as well as the strategies that other entrepreneurs have gone through before them, the situation becomes overcome.

It is not reasonable to place the weight of successful high-growth ventures only on the shoulders of these female entrepreneurs, when the cultural aspects constantly affect their individual factors, and these factors end up affecting their entrepreneurial process, creating a cycle of practically intangible but extremely noticeable barriers. In consequence, women have to power through those barriers, using all the strategies at hand. It is not enough to wait for the

status quo to change, as that would be to expect a male-dominated system to see benefits from a more egalitarian system, and this will hardly happen without female effort and intention. The change in the entrepreneurial culture structure has to be a collaborative drive, considering it will be beneficial for all female and all male entrepreneurs. A conscious and intentional approach has to be undertaken. Systems rarely change without a continuous attitude in cultural strategies. “Perseverance” is not only a key element to raise capital (Kuschel et al., 2017) but for the entrepreneurial process as a whole, especially when it comes to considering these gendered lenses in the startup process.

6.1 Limitations and Future Research

This research aimed to contribute to the knowledge on the dynamics of the entrepreneurial process of high-growth companies, especially with regard to female participation in this context, and is not without limitations.

Unfortunately, there is a low number of women startup-founders, and this is reflected in the number of interviews that were carried out in this study. Even though several invitations were made, it was not possible to obtain a greater number of interviewees. Despite apparently not having impacted the results, considering that it was a diverse group, a larger number of respondents could have brought other points, especially regarding more specific characteristics, such as what happened with age, expatriation and maternity.

Going forward, other studies could analyze these barriers including more context-specific factors, such as other economic contexts, different age ranges and especially maternity and their influences in high-growth entrepreneurship.

Furthermore, future research should investigate these findings in a quantitative approach, involving a greater number of female startup-founders. More than that, research should also analyze the different perceptions between men and women founders, in order to

compare the analyzed dimensions. Additionally, it could be important to deepen the knowledge regarding the strategies that both genders use in their entrepreneurial process to overcome these barriers and any others.

Master Thesis Conclusion

In the last 30 years, innovative ventures, usually new and tech-based, became the focal topic in entrepreneurial studies (Kee & Rahman, 2020). These firms are not only new ventures but also a pathway to fast-track innovation (Skala, 2019). At the same time, women's presence in entrepreneurial contexts have been rising, as also studies focusing on female entrepreneurs have been increasingly appearing in the entrepreneurship literature (Jennings & Brush, 2013). When the perspective is in the context of startups, however, studies on women lag behind research on male entrepreneurs, not only relating to the focus of the research, but also about the differences between male and female entrepreneurs (Brush et al., 2019). There is a substantial gap around the correlation between gender and growth-oriented entrepreneurship (Giotopoulos et al., 2017).

Cultural standards tend to show a bias against women, even more in gender-inequal communities (Ughetto et al., 2020). This situation is also reflected both in entrepreneurship as a whole and in entrepreneurship focused on high growth. If the presence of women in this scenario can lead to a higher quality of entrepreneurship (Verheul et al., 2006), it is crucial to have a clear scope of the challenges faced by women in the entrepreneurial context in order to bridge the gap between what is the current situation and a more diverse setting. Therefore, this study's main objective was to analyze in which ways the presence of a female entrepreneur founder affects the development of a high-growth oriented venture. In order to achieve this objective, two papers were developed to answer what are the major obstacles faced by entrepreneurial women and how these barriers relate to the process of creating a high-growth venture.

The first paper, *Athena in the Arena: A Systematic Review About Gender and Startups*, intended to outline the state of the art in the research about women and startups, based on a systematic literature review on these topics. This study makes two main contributions to gender

in the startup context. Firstly, the establishment of a categorization that reflects the research about women and high-growth entrepreneurship. A conceptualization of seven key categories was made from this analysis. Secondly, a framework correlated these categories, presenting dimensions of the barriers encountered by women on their path to developing high-growth ventures. The structure is segmented in two paths (Juma & Serqueira, 2016; Neill et al., 2017; Del Bosco et al., 2019; Cerqueti et al., 2020; Audretsch et al., 2020a): individual factors, that encompass ambition profile, risk predisposition, leadership capability and network characteristics, and external factors, that comprise funding and financing, homophily and gender bias.

It is important to observe that all the included articles in the systematic literature review revolve around barriers faced by women in the startup context. Although the search terms did not include this point of view, barriers were a persistent theme. This means that these Athenas have much to overcome in this arduous Arena (Ranga & Etzkowitz, 2010, Brush et al., 2019).

In the second paper, *Athena in The Arena: Key Factors Restricting Female Startup Growth*, the objective was to analyze how individual and external factors relate to the process of creating a high-growth venture, identifying, on the perception of women startup-founders, how these barriers work and can be overcome in the entrepreneurial process. This study carried out an exploratory, qualitative research conducted with eight Brazilian female startup-founders, using semi-structured in-depth interviews over a two month period. As a result, it was possible to further contextualize the characteristics of the dimensions that compose the framework and outlined a series of strategies that can help women in creating and growing a startup.

Becoming aware of the barriers they encounter when developing a startup, women can better identify and distinguish between individual factors and external factors. Both interfere entrepreneurs in different ways, however the weight is greater for female startup-founders, as

feminine characteristics are underestimated (Manolova et al., 2007; Bigelow et al., 2012; Martin et al., 2015; Thébaud et al., 2015; Wing-Fai, 2016; Edelman et al., 2018; Guzman & Kacperczyk, 2019). Learning strategies to overpower these barriers is fundamental for women entrepreneurs to endure the path of high-growth entrepreneurial development.

This master thesis' studies bring four relevant contributions, as it adds theoretical arguments in (i) gender studies, (ii) female entrepreneurship studies, (iii) startup studies, and (iv) innovation studies.

First, when looking at gender research, especially related to the entrepreneurial context, there is a low number of studies that leave the surface and present gender beyond biological sex. By segmenting the articles included in the systematic literature review and analyzing which ones are evolving in the understanding of the gender perspective, this study adds an important layer that has been overlooked in research regarding high-growth entrepreneurship.

Second, by outlining barriers that impact female entrepreneurship, especially in the context of startups, this study promotes a greater understanding of the intricacies of each dimension pointed out in the framework. At the same time, it allows other women entrepreneurs, in addition to those interviewed, to see that the barriers they face are also faced by other women, which may reduce the weight of these situations once they understand that they are culturally rooted, and are not necessarily something that happens only to them. More than that, by mapping strategies to reduce these barriers, it is possible to help women navigate more effortlessly in the way of venture success.

Third, startup literature is still sparse, and lacks a formal and structured academic conceptualization about the differences between them and traditional firms (Skala, 2019). There is a majority of new and small businesses, without growth ambitions, and this technology-based firm, usually backed by venture capital and with a clear focus on fast growth (Breschi et al., 2018). By contextualizing the differences in startup definition in the systematic

literature review, this study adds to the discussion of startups, as it makes further analysis of the conceptualization of this theme.

Forth, this study adds to the innovation research as it connects female entrepreneurship and high-growth oriented ventures, answering the call for further research on the differences between women- and men-led firms (Brush et al., 2019) and the correlation between gender and growth-oriented entrepreneurship (Giotopoulos et al., 2017). Given the relevance of this new kind of firm in the economic perspective (Audretsch, 2018; Audretsch et al., 2020b; Kee & Rahman, 2020), and the relevance of ventures founded by women to the higher quality of entrepreneurship (Verheul et al., 2006), then this is an important contribution to innovation theory and practice.

Beyond these theoretical viewpoints, these contributions also add to managerial knowledge. From a practical point of view, both female and male high-growth entrepreneurs, and also other actors of startup ecosystems, may further recon and understand that these barriers exist, and that they must collaborate to dismantle these barriers. This is not positive for women only, nor is it something that needs to be negative for men. Both genders may benefit from a transformation in the cultural setting, as the possibilities that may arise can bring good socioeconomic results in a macro perspective and return on investments in a micro perspective.

However, as there are more men in the startup scenario - as entrepreneurs, mentors, venture capitalists, and so forth -, in leadership roles in startup ecosystems and networking spaces, and in positions that create public policies, then its pivotal that these men make an active effort to understand that these barriers are deep and very real and expressed in numbers and in sound academic research. Without their intention to change, these setbacks are overpowering the Athenas in the Arena.

Every research, nevertheless, has its limitations. The first paper was started in 2019, and its data analysis was spreaded out for more than two years. This helped bring a more

comprehensive understanding of the theme, but also created some difficulties, as the number of papers around this theme were growing fast and the paper had to be updated constantly. The second paper also encountered a barrier: the number of women founders of startups is relatively scarce. So there was a limited number of interviewees, much related to the timeframe that this research was conducted and the network reach of the author. Also, although the interviews were conducted with women from different startups and in different cities, it was limited to Brazilian female entrepreneurs.

This study is one of the few that connects gender and high-growth entrepreneurship, yet there is a growing interest around this theme, something that is noticeable by the presence of renowned authors, often from other theoretical lines, publishing in this line of research. Acknowledging it seems to prove that the topic is extremely relevant, and that its connection with already consolidated subjects seeks to structure a future theoretical path.

Therefore, it is suggested that future research focuses on three main aspects. Firstly, emotional skills for entrepreneurial processes, as they are closely linked to individual factors. From the systematic review of literature, it was possible to see self-efficacy arising as an important theme. A recent body of research has been focusing on “addressing the emotional skills and emotional intelligence that would greatly enhance the entrepreneurial journey and ultimately the success of the entrepreneur” (Aly et al., 2019, p. 1612). Secondly, a fundamentation of how the gendered processes impact venture growth, especially correlating with the feminist theoretical knowledge about gender. There is an important theoretical scope about feminine-stereotyped behaviors (Edelman et al., 2018; Balachandra et al., 2019; Cicchiello et al., 2020), which appeared superficially in some articles of the systematic review of the literature, that could gain a lot by connecting with this theoretical line of research. Thirdly, as the results of the second study provide evidence of the relationship between the dimensions of barriers to high-growth entrepreneurship affects female startup entrepreneurs,

there is the possibility to undertake a quantitative approach in the investigation of the characterization of these dimensions and their influence in the path of women-led startups and in the analysis of the strategies female entrepreneurs use to overcome these obstacles.

Finally, given the importance of the role played by women in innovation, there is a hopeful call for other authors to add to this dialogue.

References

- *Included in the systematic literature review.
- * Aernoudt, R., & De San José, A. (2020). A gender financing gap: fake news or evidence?. *Venture Capital*, 22(2), 127-134.
- * Alakaleek, W., & Cooper, S. Y. (2018). The female entrepreneur's financial networks: accessing finance for the emergence of technology-based firms in Jordan. *Venture Capital*, 20(2), 137-157.
- * Alsos, G. A., & Ljunggren, E. (2017). The role of gender in entrepreneur–investor relationships: A signaling theory approach. *Entrepreneurship Theory and Practice*, 41(4), 567-590.
- * Armuña, C., Ramos, S., Juan, J., Feijóo, C., & Arenal, A. (2020). From stand-up to start-up: exploring entrepreneurship competences and STEM women's intention. *International Entrepreneurship and Management Journal*, 16(1), 69-92.
- * Balachandra, L., Briggs, T., Eddleston, K., & Brush, C. (2019). Don't pitch like a girl!: How gender stereotypes influence investor decisions. *Entrepreneurship Theory and Practice*, 43(1), 116-137.
- * BarNir, A. (2012). Starting technologically innovative ventures: reasons, human capital, and gender. *Management Decision*.
- * Berger, E. S., & Kuckertz, A. (2016). Female entrepreneurship in startup ecosystems worldwide. *Journal of Business Research*, 69(11), 5163-5168.
- * Cicchiello, A. F., Kazemikhasragh, A., & Monferrà, S. (2020). Gender differences in new venture financing: evidence from equity crowdfunding in Latin America. *International Journal of Emerging Markets*.
- * Cumming, D., Hervé, F., Manthé, E., & Schwienbacher, A. (2020). Testing-the-waters policy with hypothetical investment: Evidence from equity crowdfunding. *Entrepreneurship Theory and Practice*, 1042258720932522.
- * Dai, Y., Byun, G., & Ding, F. (2019). The direct and indirect impact of gender diversity in new venture teams on innovation performance. *Entrepreneurship Theory and Practice*, 43(3), 505-528.
- * De Crescenzo, V., Ribeiro-Soriano, D. E., & Covin, J. G. (2020). Exploring the viability of equity crowdfunding as a fundraising instrument: A configurational analysis of contingency factors that lead to crowdfunding success and failure. *Journal of Business Research*, 115, 348-356.
- * Del Bosco, B., Mazzucchelli, A., Chierici, R., & Di Gregorio, A. (2021). Innovative startup creation: the effect of local factors and demographic characteristics of entrepreneurs. *International Entrepreneurship and Management Journal*, 17(1), 145-164.
- * Edelman, L. F., Donnelly, R., Manolova, T., & Brush, C. G. (2018). Gender stereotypes in the angel investment process. *International Journal of Gender and Entrepreneurship*.
- * Ewens, M., & Townsend, R. R. (2020). Are early stage investors biased against women?. *Journal of Financial Economics*, 135(3), 653-677.
- * Fairlie, R. W., & Miranda, J. (2017). Taking the leap: The determinants of entrepreneurs hiring their first employee. *Journal of Economics & Management Strategy*, 26(1), 3-34.
- * Gimenez-Jimenez, D., Edelman, L. F., Dawson, A., & Calabrò, A. (2020). Women entrepreneurs' progress in the venturing process: the impact of risk aversion and culture. *Small Business Economics*, 1-21.
- * Giotopoulos, I., Kontolaimou, A., & Tsakanikas, A. (2017). Antecedents of growth-oriented entrepreneurship before and during the Greek economic crisis. *Journal of Small Business and Enterprise Development*.

- * Giudici, G., Guerini, M., & Rossi-Lamastra, C. (2020). Elective affinities: exploring the matching between entrepreneurs and investors in equity crowdfunding. *Baltic Journal of Management*.
- * Gloor, P. A., Colladon, A. F., Grippa, F., Hadley, B. M., & Woerner, S. (2020). The impact of social media presence and board member composition on new venture success: Evidences from VC-backed US startups. *Technological Forecasting and Social Change*, 157, 120098.
- * Greene, P. G., Brush, C. G., Hart, M. M., & Saporito, P. (2001). Patterns of venture capital funding: is gender a factor?. *Venture Capital: An international journal of entrepreneurial finance*, 3(1), 63-83.
- * Gundry, L. K., & Welsch, H. P. (2001). The ambitious entrepreneur: High growth strategies of women-owned enterprises. *Journal of business venturing*, 16(5), 453-470.
- * Guzman, J., & Kacperczyk, A. O. (2019). Gender gap in entrepreneurship. *Research Policy*, 48(7), 1666-1680.
- * Hampton, A., Cooper, S., & McGowan, P. (2009). Female entrepreneurial networks and networking activity in technology-based ventures: An exploratory study. *International Small Business Journal*, 27(2), 193-214.
- * Kee, D., & Rahman, N. (2018). Effects of entrepreneurial orientation on start-up success: A gender perspective. *Management Science Letters*, 8(6), 699-706.
- * Kuschel, K., & Lepeley, M. T. (2016). Copreneurial women in start-ups: Growth-oriented or lifestyle? An aid for technology industry investors. *Academia Revista Latinoamericana de Administración*.
- * Kuschel, K., Lepeley, M. T., Espinosa, F., & Gutiérrez, S. (2017). Funding challenges of Latin American women start-up founders in the technology industry. *Cross Cultural & Strategic Management*.
- * Kwapisz, A., & Hechavarría, D. M. (2018). Women don't ask: an investigation of start-up financing and gender. *Venture Capital*, 20(2), 159-190.
- * Lins, E., & Lutz, E. (2016). Bridging the gender funding gap: do female entrepreneurs have equal access to venture capital?. *International Journal of Entrepreneurship and Small Business*, 27(2-3), 347-365.
- * Martin, L., Wright, L., Beaven, Z., & Matlay, H. (2015). An unusual job for a woman? Female entrepreneurs in scientific, engineering and technology sectors. *International Journal of Entrepreneurial Behavior & Research*.
- * McQuaid, J., Smith-Doerr, L., & Monti Jr, D. J. (2010). Expanding entrepreneurship: female and foreign-born founders of New England biotechnology firms. *American Behavioral Scientist*, 53(7), 1045-1063.
- * Neill, S., Metcalf, L. E., & York, J. L. (2017). Distinguishing entrepreneurial approaches to opportunity perception. *International Journal of Entrepreneurial Behavior & Research*.
- * Neill, S., Metcalf, L., & York, J. L. (2015). Seeing what others miss: A study of women entrepreneurs in high-growth startups. *Entrepreneurship Research Journal*, 5(4), 293-322.
- * Poczter, S., & Shapsis, M. (2018). Gender disparity in angel financing. *Small Business Economics*, 51(1), 31-55.
- * Quintana-García, C., & Benavides-Velasco, C. A. (2016). Gender diversity in top management teams and innovation capabilities: The initial public offerings of biotechnology firms. *Long Range Planning*, 49(4), 507-518.
- * Shukla, T., & Chauhan, G. S. (2018). Traversing the women entrepreneurship in South Asia: A journey of Indian startups through Lucite ceiling phenomenon. *Journal of Enterprising Communities: People and Places in the Global Economy*.

- * Verheul, I., & Thurik, R. (2001). Start-up capital: " does gender matter?". *Small business economics*, 16(4), 329-346.
 - * Veselovsky, M. Y., Nikonorova, A. V., & Bitkina, I. V. (2017). The development of innovative startups in Russia: the regional aspect. *The Journal of Internet Banking and Commerce*, 1-14.
 - * Wing-Fai, L. (2016). The strengths of close ties: Taiwanese online entrepreneurship, gender and intersectionality. *Information, Communication & Society*, 19(8), 1046-1060.
 - * Xie, X., & Lv, J. (2016). Social networks of female tech-entrepreneurs and new venture performance: the moderating effects of entrepreneurial alertness and gender discrimination. *International entrepreneurship and management journal*, 12(4), 963-983.
 - * Xie, X., & Lv, J. (2018). Female technology entrepreneurs: resource shortages and reputation challenges—a view of institutional support. *International Entrepreneurship and Management Journal*, 14(2), 379-403.
 - * Yacus, A. M., Esposito, S. E., & Yang, Y. (2019). The Influence of Funding Approaches, Growth Expectations, and Industry Gender Distribution on High-Growth Women Entrepreneurs. *Journal of Small Business Management*, 57(1), 59-80.
 - * Yang, S., Kher, R., & Newbert, S. L. (2020). What signals matter for social startups? It depends: The influence of gender role congruity on social impact accelerator selection decisions. *Journal of Business Venturing*, 35(2), 105932.
 - * Yang, T., Hughes, K. D., & Zhao, W. (2021). Resource combination activities and new venture growth: Exploring the role of effectuation, causation, and entrepreneurs' gender. *Journal of Small Business Management*, 59(sup1), S73-S101.
- Abouzahr, K., Krentz, M., Harthorne, J., & Taplett, F. B. (2018). Why women-owned startups are a better bet. BCG. Retrieved December 26, 2021, from <https://www.bcg.com/en-us/publications/2018/why-women-owned-startups-are-better-bet>.
- Abstartups (2017). Brazilian Association of Startups. Retrieved September 30, 2019, from <https://abstartups.com.br/o-que-e-uma-startup>.
- Acs, Z. J., & Amorós, J. E. (2008). Entrepreneurship and competitiveness dynamics in Latin America. *Small Business Economics*, 31(3), 305-322.
- Acs, Z. J., Audretsch, D. B., & Lehmann, E. E. (2013). The knowledge spillover theory of entrepreneurship. *Small Business Economics*, 41(4), 757-774.
- Acs, Z. J.; Desai, S. & Klapper, L.F. (2008). "What does 'entrepreneurship' data really show?". *Small Business Economics*, 31 (3), 265-281.
- Acs, ZJ, Szerb, L. (2007). Entrepreneurship, economic growth and public policy. *Small business economics*, 28, 109-122
- Alsos, G. A., Ljunggren, E., & Hytti, U. (2013). Gender and innovation: state of the art and a research agenda. *International Journal of gender and Entrepreneurship*.
- Aly, M., Audretsch, D. B., & Grimm, H. (2021). Emotional skills for entrepreneurial success: the promise of entrepreneurship education and policy. *The Journal of Technology Transfer*, 46(5), 1611-1629.
- Antonelli, C., & Feder, C. (2020). The new direction of technological change in the global economy. *Structural Change and Economic Dynamics*, 52, 1–12. <https://doi.org/10.1016/j.strueco.2019.09.013>
- Audretsch, D. B. (2018). Entrepreneurship, economic growth, and geography. *Oxford Review of Economic Policy*, 34(4), 637-651.
- Audretsch, D. B. (2019). Knowledge as growth. *The Journal of Technology Transfer*, 44(6), 1867-1870.
- Audretsch, D., Belitski, M., & Brush, C. (2020). Innovation in women-led firms: an empirical analysis. *Economics of Innovation and New Technology*, 1-21.

- Audretsch, D., Colombelli, A., Grilli, L., Minola, T., & Rasmussen, E. (2020). Innovative start-ups and policy initiatives. *Research Policy*, 49(10), 104027.
- Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial innovation: The importance of context. *Research Policy*, 43(7), 1097-1108.
- Baumol, W. J. (1968). Entrepreneurship in economic theory. *The American economic review*, 58(2), 64-71.
- Baumol, W. J. (1968). Entrepreneurship in economic theory. *The American economic review*, 58(2), 64-71.
- Bigelow, L., Lundmark, L., McLean Parks, J., & Wuebker, R. (2012). Skirting the issues. *Journal of Management*, 40(6), 1732–1759. <https://doi.org/10.1177/0149206312441624>
- Blank, S. (2013). *The four steps to the epiphany: successful strategies for products that win*. BookBaby.
- Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology*, Vol. 2. Research designs: Quantitative, qualitative, neuropsychological, and biological (pp. 57–71). American Psychological Association.
- Breschi, S., Lassébie, J., & Menon, C. (2018). A portrait of innovative start-ups across countries.
- Brush, C. (2019). Growth-oriented Women Entrepreneurs: Strategies for Raising Money. In *Go-to-Market Strategies for Women Entrepreneurs*. Emerald Publishing Limited.
- Brush, C., Edelman, L. F., Manolova, T., & Welter, F. (2018). A gendered look at entrepreneurship ecosystems. *Small Business Economics*, 53(2), 393–408. <https://doi.org/10.1007/s11187-018-9992-9>
- Bullough, A., Hechavarria, D. M., Brush, C. G., & Edelman, L. F. (2019). Introduction: programs, policies and practices: fostering high-growth women’s entrepreneurship. In *High-growth Women’s Entrepreneurship*. Edward Elgar Publishing.
- Casson, M. (2005). Entrepreneurship and the theory of the firm. *Journal of Economic Behavior & Organization*, 58(2), 327-348.
- Cerqueti, R., Lucarelli, C., Marinelli, N., & Micozzi, A. (2020). Teams in new ventures: Gender, human capital and motivation. *International Journal of Gender and Entrepreneurship*, 12(2), 145–171. <https://doi.org/10.1108/ijge-07-2019-0115>
- Coase, R. H. (1937). The nature of the firm. *economica*, 4(16), 386-405.
- Dahlqvist, J., & Wiklund, J. (2012). Measuring the market newness of new ventures. *Journal of Business Venturing*, 27(2), 185-196.
- Eisenhauer, H. (2021, January 22). Report on women entrepreneurs in Europe. Startups & Places. Retrieved December 23, 2021, from <https://startupsandplaces.com/startup-heatmap-europe-report-on-women-entrepreneurs-in-europe>.
- Etzkowitz, H. (2007). The “Athena Paradox:” Bridging the Gender Gap in Science. *Journal of Technology Management & Innovation*, 2(1), 1-3. (Genome, 2019).
- Fellnhöfer, K., Puumalainen, K., & Sjögrén, H. (2016). Entrepreneurial orientation and performance—are sexes equal? *International Journal of Entrepreneurial Behavior & Research*, 22(3), 346-374.
- Female Founders Report 2021. B2MAMY; ENDEAVOR; DISTRITO. São Paulo, 2021. 1.pdf
- Fortune 500. (2019). Retrieved December 1, 2019, from www.fortune.com/global500/2019.
- GEM (2016). *Global Entrepreneur Monitor 2016*. Retrieved August 16, 2019, from <https://www.gemconsortium.org/report>.
- Gupta, V. K., Mortal, S., Chakrabarty, B., Guo, X., & Turban, D. B. (2020). CFO Gender and Financial Statement Irregularities. In *Academy of Management Journal* (Vol. 63, Issue 3, pp. 802–831). Academy of Management. <https://doi.org/10.5465/amj.2017.0713>

- Hechavarria, D., Bullough, A., Brush, C., & Edelman, L. (2019). High-growth women's entrepreneurship: Fueling social and economic development.
- Henry, C., Foss, L., & Ahl, H. (2016). Gender and entrepreneurship research: A review of methodological approaches. *International Small Business Journal*, 34(3), 217-241.
- 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.
- 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.
- Johansen, V. (2013). Entrepreneurship education and start-up activity: a gender perspective. *International Journal of Gender and Entrepreneurship*, 5(2), 216-231.
- Juma, N., & Sequeira, J. M. (2016). Effects of entrepreneurs' individual factors and environmental contingencies on Venture Performance: A case study of African-American women-owned ventures. *Journal of Small Business & Entrepreneurship*, 29(2), 91-119. <https://doi.org/10.1080/08276331.2016.1248276>
- Kamberidou, I. (2020). "Distinguished" women entrepreneurs in the digital economy and the multitasking whirlpool. *Journal of Innovation and Entrepreneurship*, 9(1), 1-26.
- Kee, D. M. H., & Rahman, N. A. (2020). How to Measure Start-Up Success? A Systematic Review from a Multidimensional Perspective. *A Systematic Review from a Multidimensional Perspective* (June 30, 2020).
- Lee, I. H., Paik, Y., & Uygur, U. (2016). Does gender matter in the export performance of international new ventures? Mediation effects of firm-specific and country-specific advantages. *Journal of International Management*, 22(4), 365-379. (Nissan et al., 2012,
- Lin, T. L., Lu, T. Y., Hsieh, M. C., & Liu, H. Y. (2018). From conception to startup: Who and what affect female entrepreneurship. *Contemporary Management Research*, 14(4), 253-276.
- Manolova, T. S., Carter, N. M., Manev, I. M., & Gyoshev, B. S. (2007). The differential effect of men and women entrepreneurs' human capital and networking on Growth Expectancies in Bulgaria. *Entrepreneurship Theory and Practice*, 31(3), 407-426. <https://doi.org/10.1111/j.1540-6520.2007.00180.x>
- Meunier, F., Krylova, Y., & Ramalho, R. (2017). Women's entrepreneurship: how to measure the gap between new female and male entrepreneurs?. The World Bank.
- Mongeon, P., & Paul-Hus, A. (2016). The journal coverage of Web of Science and Scopus: a comparative analysis. *Scientometrics*, 106(1), 213-228.
- Ong, S. Y. Y., Habidin, N. F., Salleh, M. I., & Fuzi, N. M. (2016). Relationship of Entrepreneurship Practice and Business Performance of Women Entrepreneur in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 6(11), 95-109.
- Ranga, M., & Etzkowitz, H. (2010). Athena in the world of techne: The gender dimension of technology, innovation and entrepreneurship. *Journal of technology management & innovation*, 5(1), 1-12.
- Ries, E. (2012). *A startup enxuta*. Leya.
- Ronay, R., & Kim, D. Y. (2006). Gender differences in explicit and implicit risk attitudes: A socially facilitated phenomenon. *British Journal of Social Psychology*, 45(2), 397-419.
- Ruef, M., Aldrich, H. E., & Carter, N. M. (2003). The structure of founding teams: Homophily, strong ties, and isolation among US entrepreneurs. *American sociological review*, 195-222.

- Sayers, A. (2007). Tips and tricks in performing a systematic review. *Br J Gen Pract*, 57(538), 425-425.
- Schumpeter, J. A. (1961). *Teoria do desenvolvimento econômico*.
- Shamseer, L., Moher, D., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., ... & Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *Bmj*, 349, g7647.
- Skala, A. (2019). The startup as a result of innovative entrepreneurship. In *Digital Startups in Transition Economies* (pp. 1-40). Palgrave Pivot, Cham.
- Startup Commons. (2015). Startup development phases. Startup Commons. Retrieved January 5, 2022, from <https://www.startupcommons.org/startup-development-phases.html>
- Tewari, V., & Malhotra, S. B. (2014). Outlook of women entrepreneurs running small business: How skills as a major factor affecting performance and growth of women entrepreneurs in India?
- Thébaud, S. (2015). Status beliefs and the spirit of capitalism: Accounting for gender biases in entrepreneurship and Innovation. *Social Forces*, 94(1), 61–86. <https://doi.org/10.1093/sf/sov042>
- Ughetto, E., Rossi, M., Audretsch, D., & Lehmann, E. E. (2019). Female entrepreneurship in the Digital Era. *Small Business Economics*, 55(2), 305–312. <https://doi.org/10.1007/s11187-019-00298-8>
- Verheul, I., Stel, A. V., & Thurik, R. (2006). Explaining female and male entrepreneurship at the country level. *Entrepreneurship and regional development*, 18(2), 151-183.
- Verheul, I., Stel, A. V., & Thurik, R. (2006). Explaining female and male entrepreneurship at the country level. *Entrepreneurship and regional development*, 18(2), 151-183.
- Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. *Small business economics*, 13(1), 27-56.
- Wheadon, M., & Duval-Couetil, N. (2019). Token entrepreneurs: a review of gender, capital, and context in technology entrepreneurship. *Entrepreneurship & Regional Development*, 31(3-4), 308-336.
- Wilson, K. E. (2011). Financing high-growth firms: The role of angel investors. Available at SSRN 1983115.
- Women in US technology leadership. Silicon Valley Bank. (2021). Retrieved December 26, 2021, from <https://www.svb.com/women-in-technology>
- Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small business economics*, 24(3), 335-350.
- Zhu, J., & Liu, W. (2020). A tale of two databases: the use of Web of Science and Scopus in academic papers. *Scientometrics*, 1-15.

Appendix I

Categories excluded from search.

SCOPUS:

AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "COMP") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "AGRI") OR EXCLUDE (SUBJAREA , "ENVI") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "HEAL") OR EXCLUDE (SUBJAREA , "CENG") OR EXCLUDE (SUBJAREA , "PHAR") OR EXCLUDE (SUBJAREA , "VETE") OR EXCLUDE (SUBJAREA , "EART") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "MATE") OR EXCLUDE (SUBJAREA , "MATH")) AND (EXCLUDE (SUBJAREA , "MULT"))

WEB OF SCIENCE:

AND [excluindo] CATEGORIAS DO WEB OF SCIENCE: (DEMOGRAPHY OR PHARMACOLOGY PHARMACY OR PUBLIC ENVIRONMENTAL OCCUPATIONAL HEALTH OR ENGINEERING BIOMEDICAL OR REGIONAL URBAN PLANNING OR EDUCATION EDUCATIONAL RESEARCH OR ETHICS OR SOCIAL SCIENCES BIOMEDICAL OR SOCIAL WORK OR ENGINEERING INDUSTRIAL OR INDUSTRIAL RELATIONS LABOR OR ENGINEERING MULTIDISCIPLINARY OR TELECOMMUNICATIONS OR MUSIC OR TRANSPLANTATION OR BIOTECHNOLOGY APPLIED MICROBIOLOGY OR OPERATIONS RESEARCH MANAGEMENT SCIENCE)

Appendix II – Interview Script

Roteiro Entrevista

Introdução à entrevista

- Bom dia/tarde.
- Agradecer a participação.
- Explicar que o tema é o papel das mulheres na inovação, então estou fazendo um recorte de mulheres fundadoras ou co-fundadoras de startups que estejam em fase de comercialização do produto.
- Explicar que os nomes e empresas serão omitidos.
- Perguntar se pode gravar.

Sobre a entrevistada e sobre a startup

Qual é seu nome completo?

Qual é o nome da startup?

Há quantos anos a startup existe?

Qual é a área/mercado da startup?

Qual o principal produto/serviço da startup?

Há quanto tempo comercializa produtos?

Qual fase a startup está (operacionalização, tração, scale-up)?

Qual é o seu papel atualmente dentro da startup?

Perfil de Ambição (Ambition Profile)

Esta dimensão trata da intenção de construir empresas que tenham como foco o crescimento rápido e escalável, e que possuam foco em retorno sobre o investimento.

- Para a criação de startups, é necessário que a pessoa fundadora tenha intenção de construir empresas de **crescimento rápido e escalável**. Para você, que tipo de diferenças existem entre mulheres e homens em relação a esta **intenção** de construir empresas de **crescimento rápido e escalável**? Consegues citar alguns exemplos?
- Na sua visão, essa intenção de criar empresas de crescimento rápido impacta no processo de empreender? Como?

Predisposição ao Risco (Risk Predisposition)

Esta dimensão trata da predisposição da pessoa empreendedora em assumir posições de risco ao empreender.

- Ao empreender, muitas vezes é necessário tomar decisões arriscadas. Para você, existe diferença entre mulheres e homens em relação à vontade de assumir posições de risco ao tomar decisões arriscadas ao empreender? Consegues citar alguns exemplos?
- A predisposição de tomar decisões de risco impacta no processo de empreender? Como?

Capacidade de Liderança (Leadership Capability)

Esta dimensão trata da capacidade da pessoa empreendedora em construir e liderar equipes, focando no alto crescimento e resultado.

- Para uma empresa crescer, é importante criar equipes. Para você, existe diferença entre mulheres e homens em relação à capacidade de construir equipes e de liderar?
- Esta capacidade impacta no processo de empreender? Como?

Características da Rede (Network Characteristics)

“Laços fortes” = conexões com pessoas mais unidas e que possuem interações frequentes (como família e amigos íntimos); “laços fracos” = com pessoas que relações sociais distantes e interações raras, que são comumente observadas entre conhecidos ou estranhos (como parceiros de negócios e outros profissionais do mercado de atuação).

- Para empreender, é necessário criar redes de contatos. Se fosse possível indicar em números percentuais, quanto da sua rede é composta de **família e amigos íntimos**? E quanto da sua rede é composta de **parceiros de negócios e outros profissionais do mercado de atuação**?

- **Por qual motivo você acredita que esse tipo de rede [repetir a resposta da pessoa] é maior?**
- De que forma ter mais família e amigos íntimos impacta no processo de empreender?
- De que forma ter mais parceiros de negócios e contatos profissionais impacta no processo de empreender?

Homofilia (Homophily)

Homofilia é a tendência dos indivíduos de se associarem e de criar vínculos com outros semelhantes. Neste caso, estamos falando sobre a tendência de homens a se vincularem com outros homens no mercado e de mulheres a se vincularem com outras mulheres.

- Olhando para o seu processo empreendedor, você se relaciona profissionalmente com mais frequência com homens ou mulheres? Por quê?
- Você tem alguma preferência?
- Se relacionar mais com **[pessoas do mesmo gênero | pessoas de outro gênero]** impacta no processo de empreender? Como?
- Olhando para o ambiente das startups, o que acontece geralmente?

Investimento e Financiamento (Funding and Financing)

Esta dimensão trata da predisposição da pessoa empreendedora em conseguir investimento ou financiamento para a sua startup.

- Uma startup muitas vezes precisa buscar investimento externo. Para você, existe diferença entre mulheres e homens em relação à capacidade de adquirir investimento ou financiamento?
- A capacidade de adquirir investimento ou financiamento impacta no processo de empreender? Como?
- No geral, o mercado vê diferença entre homens e mulheres nesta capacidade? Quais? Por quê?

Viés de Gênero (Gender Bias)

É uma forma de preconceito inconsciente, que ocorre quando um indivíduo inconscientemente atribui certas atitudes e estereótipos a outra pessoa ou grupo de pessoas. Esses comportamentos atribuídos afetam o modo como o indivíduo entende e se relaciona com os outros.

- Alguma vez já atribuíram a você estereótipos a você por causa do seu gênero? Você já passou por algum tipo de preconceito em relação ao seu gênero?
(Exemplo: “Todas as mulheres são cuidadoras”, e, portanto, isso gera um estereótipo de que existem carreiras femininas - sociais- e masculinas - analíticas. Outros exemplos: receber menos investimento, orquestra.)
- O preconceito de gênero impacta no processo de empreender? Como?
- Existe preconceito relacionado ao gênero no seu mercado? Como o mercado se posiciona em relação a isso?

Outros

- Além destes fatores, existe alguma outra barreira que você vê recorrentemente acontecer no seu processo de empreender?
- Existe alguma ligação desta barreira ao seu gênero?

Encerramento

- Minhas perguntas acabam por aqui. Mas existe mais alguma coisa que você gostaria de pontuar sobre a sua experiência de ser mulher empreendedora, especialmente falando sobre o ambiente de startups?
- Você gostaria de me fazer alguma pergunta?
- Agradecer novamente a participação, que a participação é muito importante para avançarmos neste tema.