

**Far From Levelling the Playing Field:
Understanding the Gender Differences in
Venture Capital Financing in India**

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

Despite all the government initiatives aimed at empowering women in India, women entrepreneurs continue to face significant financial challenges in the country. The women may gain access to debt capital, but they have limited access to equity capital in the form of venture or late-stage funding. This study aims to provide a comprehensive overview of venture capital (VC) funding during the period 2015-2020 for women-owned enterprises in India by comparing the venture capital investments in firms led by women and men across the stages of financing, industry sector, geographic location, and size. The findings from the study indicate that in the past decade venture financing of women led businesses have improved in India, both in terms of the number of investments and the amount of dollars invested. However, in terms of the amount of dollars invested, firms with women founders receive much lesser than the firms with no women founders. The research findings will help investors in devising ways to use investment capital to bridge economic and social gender gaps and provide a strong evidence base for integrating gender considerations into investing strategies in countries such as India.

Keywords: Women, Venture Capital (VC), gender, entrepreneurship, startup, India, investment

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Table of Contents

<i>Author’s Declaration</i>	<i>ii</i>
<i>Abstract</i>	<i>iii</i>
<i>Acknowledgement</i>	<i>iv</i>
<i>List of Figures</i>	<i>viii</i>
<i>List of Tables</i>	<i>ix</i>
<i>List of Abbreviations</i>	<i>x</i>
<i>Chapter 1 Introduction</i>	<i>1</i>
<i>Chapter 2 Background</i>	<i>4</i>
2.1 The History of the Indian Entrepreneurship ecosystem	<i>4</i>
2.2 The role of Foreign MNE subsidiaries in shaping the entrepreneurial ecosystem in India	<i>5</i>
2.3 Startup Action Plan, 2016	<i>6</i>
2.4 Government initiatives to create a conducive ecosystem for emerging businesses and startups	<i>8</i>
2.5 Women Entrepreneurship in India- The urgency and the opportunity.....	<i>8</i>
2.6 Women Employment and Entrepreneurship in India: Trends and Patterns	<i>10</i>
2.7 Venture Capital ecosystem in India	<i>18</i>
<i>Chapter 3 Previous research: Gender differences in venture financing</i>	<i>19</i>
<i>Chapter 4. Theoretical Framework</i>	<i>21</i>
4.1 Discrimination Theory	<i>21</i>
4.2 Occupational Crowding	<i>23</i>
4.3 Structural Differences.....	<i>23</i>
<i>Chapter 5: Methodology</i>	<i>25</i>
<i>Chapter 6: Results</i>	<i>26</i>
<i>Chapter 7: Discussions and Implications</i>	<i>36</i>
7.1 Are women-led companies more risk averse?	<i>37</i>
7.2 Structural Barriers	<i>39</i>
7.3 Gender Stereotyping	<i>40</i>
7.4 Networking	<i>41</i>
7.5 Limitations of the study	<i>42</i>
<i>Chapter 8: Conclusion</i>	<i>44</i>
<i>References</i>	<i>45</i>

***Appendix*..... 53**
Case study: Nadathur S. Raghavan Centre for Entrepreneurial Learning (NSRCEL), Bengaluru, Karnataka, India 53
Indian Government Initiatives to Create a Conducive Ecosystem for Emerging Businesses and Startups 55

List of Figures

Figure 1: Top ten countries with most unicorns as of April 2021 (Source: Statista 2021).....	4
Figure 2: Total number of startups in top 10 cities through 2018 (Source: Statista).....	5
Figure 3: Percentage distribution of number of enterprises by ownership type for each sector and enterprise type (Source: MSME Annual Report, 2020).....	Error! Bookmark not defined.

List of Tables

Table 1: Number of Startups Recognized by the DPIIT by State (as of 5 November 2019*).....	7
Table 2: Status of employment among women in India (2012-12 to 2018-19) (In percentages). 11	
Table 3 Categorisation of Establishments that were women-owned during 5th and 6th Economic Census.....	13
Table 4: Operational Location Based Percentage Distribution of Enterprises	16
Table 5: Distribution of women-owned enterprises in 2013 by nature of operation	16
Table 6: Finance based Distribution of Women-owned Establishments	17
Table 7: Number of VC investments in companies 2015-2020.....	27
Table 8: VC investments in companies 2015-2020 (in \$ million).....	27
Table 9: Average early stage and late-stage venture financing 2015-2020 (in \$ millions)	28
Table 10: Industry wise break down of firms with no woman as founder and with women as founders in 2020 – Number of deals.....	29
Table 11: Industry wise break down of firms with no woman as founder and with women as founders in 2020 – Investment value in \$ millions.....	30
Table 12: Break down based on stage of funding of firms with woman as founders and with no woman as founder – Number of deals	32
Table 13: Break down based on stage of funding of firms with woman as founders and with no woman as founder – Investment value in \$ millions	33
Table 14: Distribution of firms with women founders based on industry and revenue range.....	34
Table 15: Number of investments received by the top six states.....	34

List of Abbreviations

VC	Venture Capital
GEM	Global Entrepreneurship Monitor
TEA	Total Entrepreneurial Activity
IFC	International Finance Corporation
SME	Small and Medium Enterprises
MSME	Micro, Small and Medium Enterprises
MNE	Multinational Enterprises
IT	Information Technology
ITES	IT Enabled Services
COD	Cash-On-Demand
SEZ	Special Economic Zones
WPR	Workforce Participation Rate
PLFS	Periodic Labour Force Survey
OAE	Own-Account Enterprises
SHGs	Self-Help Groups

Chapter 1 Introduction

Globally, women continue to face inequality and discrimination when it comes to access to opportunities in all fields of life, including education, health care, and finance. This is primarily because of the existing systemic and structural marginalisation of these social groups at all levels. Further restricting their social and economic empowerment are various social challenges such as gender stereotyping, mobility issues, and safety concerns. Developing policies that facilitate women's empowerment, both socially and economically, has been an important theme of development research, economic theorization, and global policy design (International Development Research Centre, 2000). The mutual causality between social and economic empowerment is well accepted globally and calls for the intervention of both aspects to bridge the gender gaps and provide opportunities to this marginalized group. Women's involvement in the private sector as workers, entrepreneurs, consumers, and leaders has piqued the interest of development stakeholders worldwide, eventually contributing to a more significant development impact (The International Development Research Centre, 2000). A study by Weber and Ahmad (2014) outlines that microfinance can empower its consumers in a variety of ways by providing them with access to formal or semi-formal financial services: increasing women's security and power through forming groups that connect them to networks beyond their neighbourhoods.

According to Bertaux and Crable (2007), entrepreneurship helps women balance domestic roles while still supporting their families financially. This is also in line with Kabeer's (1999) results, which indicate that women's access to economic and social services increases their ability to exercise choice, thus empowering them. Similarly, Anderson and Eswaran (2009) found that earned income gives women more control and decision-making power, empowering them at home. While much of the early literature identified a connection between women's economic and social empowerment, there have been differing perspectives on the development of economic value through women's empowerment and gender diversity. Studies on women's economic empowerment through entrepreneurship have concentrated on characteristics of female entrepreneurs such as age, education, and risk perceptions, and these entrepreneurs have a diverse range of experiences (Baker et al. 1997). As pointed out by Cronin-Furman et al. (2017), economic empowerment of women is often perceived by most as creating jobs or livelihood opportunities for women in traditional roles.

As a result of a changing entrepreneurial ecosystem, there is an evident increase in the number of women taking up entrepreneurship across the globe. Based on the Global Entrepreneurship Monitor (GEM) report, 2018-19, there are 231 million women who are running or have started new businesses around the globe – indicating an increase in women’s Total Entrepreneurial Activity (TEA) rates by 1% overall while the gender gap (ratio of women to men participating in entrepreneurship) had decreased by three percentage points from 31% to 28%.

Women's entrepreneurship has risen in India in recent decades, owing to improved educational outcomes, targeted government and private sector efforts, and other socioeconomic variables. In the FY 2021, India has 13.5- 15.7 million women-owned businesses, representing 20% of all enterprises and approximately 22 to 27 million people are directly employed by these industries (Statista, 2021). Despite this, most of these women-led businesses are single person enterprises and operate in micro enterprises and small businesses due to a lack of ecosystem support such as limited financial access, market connectivity and networks.

Despite all the government initiatives aimed at empowering women in India, women entrepreneurs continue to face significant financial challenges in the country. According to a study by the International Finance Corporation (IFC), 2014, lack of access to finance, is a key factor leading to the significantly lower growth rate of women-led businesses relative to the average growth rate of Small and Medium Enterprises (SMEs) run by men. In developing markets, the unmet credit demand for women-owned formal micro-SMEs is estimated at USD 1.7 trillion (IFC, 2020). The report also provides evidence that the total financing demand for registered and unregistered women owned micro, small and medium enterprises (MSMEs) in India was estimated to be USD 158 billion, with the total availability of financing being about USD 42 billion, suggesting a USD 116 billion financing gap. A confluence of issues hinder access to capital and, as a result, the scalability of women-led businesses in India.

In 2020 women-led businesses received just 2.3% of the VC funding (Bittner and Lau, 2021) across the globe. It is further reported that women entrepreneurs have loan approval rates that are 15-20% lower than that of men. Women-led businesses tend to be perceived as high-risk investments by financiers, and capital investment in women-run businesses remains very limited. This gap is a major barrier for female entrepreneurs, as early-stage financing is critical for rapidly growing a company (Becker-Blease and Sohl, 2007; Alsos and Ljunggren, 2017).

Several studies have found that women are disproportionately under-represented among venture-backed entrepreneurs in the United States. A study by Gompers and Wang (2017) indicates that from 2010 to 2015, just 10.7% of US venture-backed founders were women. According to a recent study by Gompers and Wang (2017), female-led businesses only earn 7% of venture capital funding. Women-led businesses start their operations with significantly fewer financial resources than men and raise much less incremental debt and equity in the initial years (Coleman and Robb, 2009). The gender divide is also significant in the early-stage angel funding (Becker-Blease & Sohl, 2007). In India despite all the pro women government schemes, the awareness of how to get access to capital is very limited. The women may manage to get the debt capital but the access to private equity in the form of venture funding or mid to late-stage funding is minimal.

This study aims to provide a comprehensive overview of venture capital funding for women-owned enterprises in India. The study seeks to address two key questions: Are there differences between firms with a woman founder and firms with no women founders in accessing venture capital financing in India and whether women entrepreneurs have made significant progress in obtaining venture capital financing for their business operations.

The next chapter provides an overview of the entrepreneurship ecosystem in India, the evolution of the women entrepreneurship and the venture capital industry in India.

Chapter 2 Background

2.1 The History of the Indian Entrepreneurship ecosystem

The Indian entrepreneurship ecosystem is a study in contrasts, just like so many other aspects of the country. India has created a dual economy through its outward-focused innovation system, which has led to a divergence between globally-connected and inwardly-oriented sectors regarding performance and outcomes (Bhagavatula, S., et al, 2019). Globally connected multinational enterprises (MNE) with knowledge-intensive subsidiaries in Indian cities are virtually identical to their counterparts in the most advanced countries. However, they coexist with levels of extreme poverty. Despite India's efforts to reduce poverty, over 48 million people live below the international extreme poverty limit of \$1.90 per day as of 2019. (World Poverty Clock, 2019).

In the year 2020, there were 38,815 active startups operating in India. An approximate amount of USD 70 billion was raised by 3,436 startups between 2014-2020. The number of tech startups in India has been significantly increasing over the past few years (estimated at 8,900 – 9,300 between 2013-2019, of which 1300 new tech startups were launched in 2019), as has the number of startups with significant market valuation (NASSCOM, 2018). India ranks third in the list of countries having the greatest number of unicorns with a total of 66 unicorns generating over USD 15 billion in revenue (Figure 1).

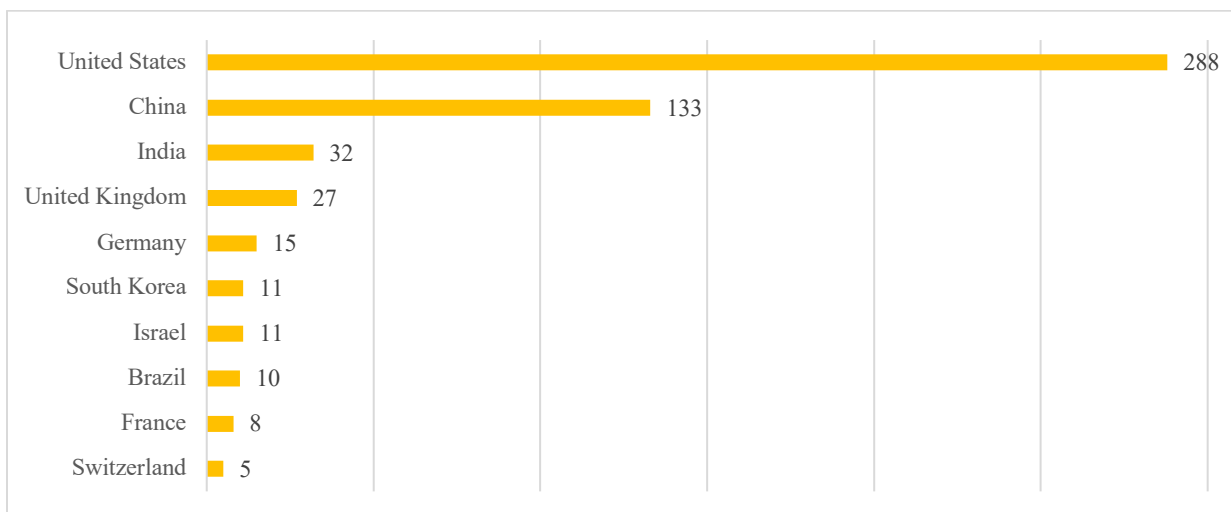


Figure 1: Top ten countries with most unicorns as of April 2021 (Source: Statista 2021)

While the preceding figures show significant development in Indian innovation and entrepreneurship, this progress occurred despite systemic difficulties that existed in India.

2.2 The role of Foreign MNE subsidiaries in shaping the entrepreneurial ecosystem in India

Since liberalisation, privatisation, and globalisation policies, commonly referred to as LPG reforms, introduced in 1991, India's stronghold in terms of value addition to the GDP has been the tertiary sector comprised of IT/BPO services industries (Inc42, 2021). The catch-up process may be traced back to the establishment of foreign MNE subsidiaries in Bangalore's IT industry, which began with Texas Instruments in 1985 (Bhagavatula, S., et al, 2019). The international MNE subsidiary cluster evolved over time, moving up the software development value chain from implementation and testing to design and post-production client support (Lewin, Massini, & Peeters, 2009; Lorenzen & Mudambi, 2010). As a result of the spillover mechanism leading to India's startup culture, many of India's startup hotspots (Bengaluru, New Delhi, Mumbai, Chennai, Hyderabad, and Pune) were co located with foreign multinational corporations. (Figure 2).

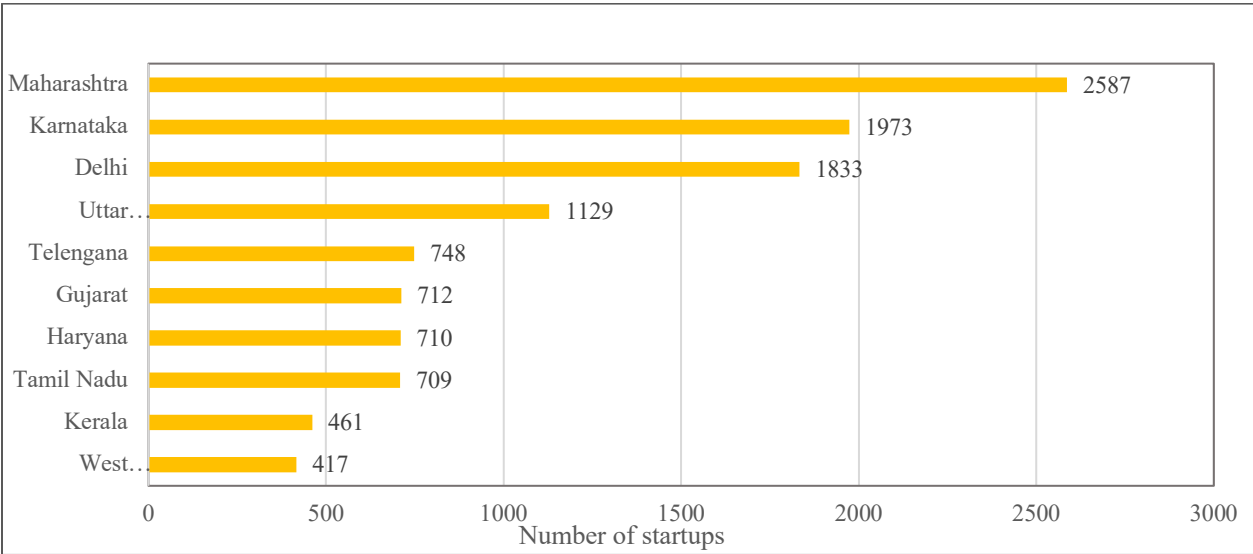


Figure 2: Total number of startups by state 2018 (Source: Statista)

Many startups became operational during the dot-com era and among these only a few survived the meltdown that followed. During that time, the lack of adequate infrastructure made it virtually

impossible for internet-based businesses to flourish. Between the period, 1999-2005 (immediate post dot-com period) only few startups were operating in the country. According to Sabarinathan (2019), leading angel investors in India invested in 19 firms between 1999 and 2005, compared to 21 in 2006 and 16 in 2014. The downward trend in angel financing could be attributed to the poor support provided to the ventures and a highly buoyant job market as a result of the rapid growth of larger companies in the IT enabled services (ITES) sector (Bhagavatula, S., et al, 2019).

In contrast to early phases of ITES and IT ventures, the more recent startup developments are quite distinct. Most IT and ITES startups in the earlier years mainly addressed global issues while recent startups focus more on addressing the problems facing India.

With the development of the cash-on-demand (COD) business model, the entrepreneurial landscape in India was radically altered. Prior to the introduction of this model, e-commerce was only available to those with credit cards, whereas COD allowed those without credit cards to participate in it. Although modern facilities such as access to internet, credit card transactions etc. were more in use in the cities, people were reluctant to engage in online transactions. FlipKart, an ecommerce venture launched in 2007, introduced the Indian population to the COD business model where the customers could pay for the transactions at their home when the product was delivered.

2.3 Startup Action Plan, 2016

In 2016, the Government of India launched the startup action plan aimed at addressing the various aspects of the Indian startup ecosystem and providing support to the entrepreneurs in setting up and sustaining their ventures in the country. The action plan's main goal was to accelerate the development of the startup movement from the digital/technology sector into a wide range of sectors including, agriculture, education, healthcare, and manufacturing, and the shift in the concentration of startups in the Tier-I cities (namely Bengaluru, Delhi, Mumbai etc.) to Tier II and Tier III cities (Kothari, 2016). With the launch of the Startup India initiative, recognized startups have now spread across 623 districts. Each state and union territory (UT) has at least one startup. 30 States and UTs have announced specific Startup Policies to support startups. Maharashtra, Karnataka, Delhi, Uttar Pradesh, and Gujarat have the greatest number of startups.

Table 1: Number of Startups Recognized by the DPIIT by State (as of 5 November 2019)*

State/ UT	2016	2017	2018	2019
Andaman and Nicobar Islands	0	1	2	5
Andhra Pradesh	4	103	162	140
Arunachal Pradesh	0	0	2	2
Assam	10	35	68	57
Bihar	1	48	149	135
Chandigarh	9	22	27	32
Chhattisgarh	11	57	121	143
Dadra and Nagar Haveli	0	3	0	2
Daman and Diu	0	1	1	0
Delhi	75	743	1,187	1,152
Goa	2	20	44	32
Gujarat	29	298	452	514
Haryana	28	271	487	591
Himachal Pradesh	0	9	17	25
Jammu and Kashmir	2	15	48	37
Jharkhand	2	35	88	80
Karnataka	67	886	1,213	1,374
Kerala	24	172	332	563
Madhya Pradesh	7	107	297	272
Maharashtra	93	1,104	1,661	1,778
Manipur	0	4	7	4
Meghalaya	0	0	2	6
Mizoram	0	0	2	1
Nagaland	1	4	2	2
Odisha	4	115	168	142
Pondicherry	0	3	16	6
Punjab	7	31	70	81
Rajasthan	14	140	246	300

Sikkim	0	1	0	2
Tamil Nadu	54	271	459	489
Telangana	20	328	511	492
Tripura	0	0	4	5
Uttar Pradesh	29	413	791	709
Uttarakhand	4	45	69	84
West Bengal	8	181	275	255
	505	5,466	8,980	9,512

Source: PIB (2019d).

2.4 Government initiatives to create a conducive ecosystem for emerging businesses and startups

In India, entrepreneurship has the potential to be a one-stop solution to key issues such as unemployment and poverty. Considering these advantages, the government has taken numerous steps for entrepreneurship development in the country from time to time, such as Industrial Policies and Five-Year Plans that are explicitly focusing on developing the small and medium scale enterprises, setting up of Special Economic Zones (SEZs), setting up of institutes of entrepreneurship development, training programmes such as the Entrepreneurship Development Programmes (EDPs) and various Government Programmes and Schemes for the promotion of entrepreneurship (See Appendix).

Despite the number of initiatives taken by the government, there are still certain issues such as lack of finance, technical knowledge, managerial skills, and availability of resources and infrastructure, as well as lack of awareness of entrepreneurship schemes and regulatory framework that prevent the growth and development of entrepreneurship in the country.

2.5 Women Entrepreneurship in India- The urgency and the opportunity

India's development story has forgotten a key demographic segment: women. Despite the improvements in social parameters, India's growth is not conducive to the upliftment of the poor and development of women. As a result of labour trends, technological disruption, and constraints in society, women's participation in the job market has stagnated, and is expected to decline further.

India will have the largest working-age population in the world by the end of the decade with more than 1 billion people. India's demographic dividend along with the fast-growing pool of educated people, has huge potential to herald major economic and social development in the country. Despite this, the private and public sectors alone have not been able to create enough jobs. The development of women entrepreneurship is therefore an integral part of the solution. It not only benefits the economy by creating jobs, but it also has a transformative social and personal impact on women.

There has been a growing interest in entrepreneurship among women in the developing world to guarantee more equity in terms of quality of life. Through female entrepreneurship, women are empowered not only as financially independent individuals, but are also able to participate in the labor market in developed and underdeveloped regions, where traditionally men have dominated (Shah 2013). Research studies show that women have been more inclined to become entrepreneurs in order to support their families, in most cases when the male member in the family is incapable or unavailable. However, younger women are increasingly choosing to launch and run their own ventures. While launching their ventures, almost 58 percent of female entrepreneurs were between the ages of 20 and 30. Women entrepreneurs have made major contributions to the creation of jobs, socioeconomic development, and female empowerment.

Women's entrepreneurs have made major contributions to the creation of jobs, socioeconomic development, and women's empowerment. In India, underlying facilitators and constraints limit their involvement significantly (Lenka and Agarwal 2017). Women are still constrained to microbusinesses in both rural and urban settings. The existing systemic and structural marginalisation of women at all levels weakens the role and contribution of women entrepreneurs in the country (Lenka and Agarwal 2018).

The lack of physical and human resources, and a conducive industrial setting, has a negative impact on entrepreneurial intentions, interests, and activities in underdeveloped countries. So, people become imitators of existing goods or processes rather than innovators, bringing them into new areas (Burger Helmchen, 2012). Entrepreneurial enterprises, on the other hand, can accelerate economic development in underdeveloped areas. Rural entrepreneurship, which is dominated by

women, can drastically improve the standard of living in impoverished areas when promoted by government action.

2.6 Women Employment and Entrepreneurship in India: Trends and Patterns

In 2011-12, the women's workforce participation rate (WPR) in India was one among the lowest in the world at 32% and based on 2018-19 Periodic Labour Force Survey (PLFS) report it has further declined by 25%¹. The decrease was evident among both male and female workers, but it was more pronounced among rural female workers. This persistent decline has piqued the interests of several economists and academicians who attributed the downward trend in WPR among women to three factors: (1) errors in recording and measuring work done by women (Ghosh 2016; Hirway 2012); (2) a lack of demand for jobs in women-friendly lines of work (Kingdon and Unni 2001) and sectors of the economy (Chatterjee et al. 2015); and on the supply side, when family income rises, women are more likely to work in less physically demanding jobs (Srivastava and Srivastava 2010). However, from 2011–12 onwards, there have been attempts to explain it in terms of a shift toward more women doing unpaid care work which includes household chores and caring for children and the elderly (Chakraborty 2019b).

During the period 2011–12 to 2018–19, a gradual decline in women's WPR in India was accompanied by a significant decline in employment among women. A decrease in self-employment and casual work in the working-age population (15-59 years) was accompanied by an increase in regular wage/salaried workers (Periodic Labour Force Survey 2018-19). The increase in regular employment for women would be a positive shift if women's WPR had also increased (Chakraborty, S., & Chatterjee, P. 2021).

However, the absolute number of women working in regular salaried positions has barely increased between 2011-2012 and 2018-2019 (Periodic Labour Force Survey 2018-19). Furthermore, a closer examination of the self-employed classification reveals that own-account

¹The WPR is for the productive age group of 15–59 years.

worker and employer better reflect entrepreneurial activity, and that the share of male entrepreneurs has risen significantly over time.

Table 2: **Status of employment among women in India (2012-12 to 2018-19) (In percentages)**

Status of Employment	2011–12		2018–19	
	Men	Women	Men	Women
Self-employed	48.7	55.6	49.3	52.9
Own-account worker and Employer	37.3	19.6	41.3	22.2
Unpaid family helper	11.5	36	8.1	30.8
Regular wage/ salaried employee	21.2	13.4	26.1	22.9
Casual labour	30.3	31	24.6	24.2
Total	100	100	100	100

Source: Unit level data on Employment and Unemployment from the NSS 68th round and the PLFS (2018–19).

According to official sources, the NSSO enterprise surveys and the Central Statistics Office's Economic Census provide the main estimates of the unincorporated sector. According to the Sixth Economic Census (2013), the overall number of entities increased by 42 percent between 2005 and 2013, from 41.25 million to 58.5 million. Furthermore, it is seen that many of these establishments were privately owned, and of those, most owned-account enterprises (OAE) were more prominent than establishments with employees.

Disaggregated gender data however provided a disconcerting picture of women's entrepreneurial opportunities. Within these 58.5 million establishments, there were 131.29 million employees, but most of them were men (75 percent) and only 33.04 million women (25 percent) of them. Women-owned proprietary businesses more than doubled between the Fifth Economic Census 2005 and the Sixth Economic Census 2013.

According to the data, there was a significant uptick in women-owned private firms operating without any fixed place of business from 2005 to 2013: from 13% to 39%. Women entrepreneurs face operational constraints and vulnerabilities because there is no fixed location in which to run their businesses (Chakraborty, S., & Chatterjee, P. 2021). Also, it shows a rise in agricultural activities among women-owned establishments, and a decline in non-agricultural activities. Among the women-owned proprietary companies, retail and manufacturing were the most dominant sectors, representing 58 percent of the non-agricultural firms.

According to the NSS 73rd round 2015-16, a majority of these enterprises were owned by small owners, of which women represented a miniscule percentage. It also indicates that nearly one fifth of the enterprise were proprietary enterprises headed by women, mainly in OAEs, where they accounted for about 22 percent of all enterprises in rural and urban areas. The share of women in larger enterprises was only 4.8% in 2015-16. A total of 63.4 million enterprises provide employment for approximately 111.3 million workers. Of the country's workforce, 62 percent belongs to OAEs or proprietary enterprises, outnumbering workers employed by large companies. The manufacturing sector had the highest number of women leading OAEs with 45 percent (NSSO, 2017).

Table 3 presents a breakdown by type of ownership of enterprises. This study shows that, across enterprises, proprietary enterprises have the highest share of unincorporated non-agricultural enterprises in rural as well as urban areas. The low level of operational capacity as well as the low employment generation opportunities is evident by the dominant position of proprietary enterprises regardless of location and type of enterprise.

Only 2 percent of enterprises were partnerships, and these partnership firms were mostly formed by members of the same household. Within the total enterprises, Self-Help Groups (SHGs) were around 2 percent, but their location wise numbers varied. The majority of SHGs operate in rural areas (3%) compared to urban areas (less than 1%)

Table 3 Categorisation of Establishments that were women-owned during 5th and 6th Economic Census

Establishment Type	5th Economic Census (2005)	6th Economic Census (2013)
Total number of establishments (in millions)	37.34	52.29
Total number of establishments owned by women entrepreneurs (in millions)	3.54	8.05
Total number of persons employed in proprietary establishments (in millions)	77.92	103.06
Total number of persons employed in women owned establishments (in millions)	6.05	13.45
Women owned establishments with premises (in percentage)	86.8	61.5
Women owned establishments without premises (in percentage)	13.2	38.5
Women owned establishments without hired workers (in percentage)	77.1	83.2
Women owned establishments with at least one hired worker (in percentage)	22.9	16.8
Total number of agricultural establishments owned by women (in percentage)	15.7	34.3
Total number of non-agricultural establishments owned by women (in percentage)	84.3	65.7
Total number of women owned establishments: Rural (in percentage)	74.1	65.12
Total number of women owned establishments: Urban (in percentage)	25.9	34.88

Source: Unit level data from the 5th and 6th Economic Census.

The Sixth Economic Census 2013 indicates an increase in entrepreneurial activity among women in the agriculture and the allied sectors; about one-third of all women-owned business where in the agriculture sector. There was also an evident increase in the services sector from 2.9 percent to 5.4 percent, indicating a shift in Women-owned manufacturing enterprises declined from 34.9% to 29.8% between 2005 and 2013. But there was an increase in women's entrepreneurship in the other services sector from 2.9 percent to 5.4 per cent, implying a shift in sector for women entrepreneurs.

It is not an exaggeration to say that the service sector has immense potential to create jobs given its huge contribution to gross domestic product (GDP) and employment (Mukherjee, A. 2013). Based on the data released by the Ministry of Corporate affairs, service sector contributes 60 percent to India's GDP (Nagaraj, R., & Srinivasan, T. N. 2016). In 2019, 55 percent of foreign direct investments coming to India were from the services sector. The informal nature of women-owned businesses, along with their poor operational capacity will limit their ability to operate and grow their businesses.

The share of women's private businesses in the manufacturing sector was 45 per cent; in the trade and other services sectors, it was 9 percent; and in agriculture, it was 7 per cent. It is also to be noted that the share of sole proprietorship enterprises run by women in the manufacturing sector was higher in rural areas when compared to urban areas.

These findings also reflect the overall finding of the 68th round of NSS employment and unemployment schedule, which shows a high rate of increase in self-employment among women in rural and urban areas from 1993–94 to 2011–12. In addition, it is important to mention that women's ownership of companies in other sectors were even lower, and this was the case in rural areas too as compared to urban areas. Most of these enterprises were operated by household-owned and family-owned businesses. These enterprises operated based on the availability of raw materials and the need for their products and services, which could be very seasonal in nature. As a result, they were predominantly informal enterprises.

Therefore, in 2015-2016, the women run enterprises in the manufacturing sector were mainly small, own account businesses and the rate of entrepreneurship pretty low, even among other non-

agricultural enterprises. Also, women entrepreneurs have to confront several structural barriers and social constraints that inhibit their involvement in entrepreneurial activities, resulting in the majority being employed in labour-intensive and low-productive sectors. According to (Bardasi, Sabarwal, and Terrell, 2011), women prefer to start smaller businesses so that they can balance their household responsibilities and minimize risk exposure.

To better understand the operational and economic aspects of women-owned businesses in India, an analysis of all women-owned businesses engaged in agricultural and non-agricultural activities is essential. Many enterprises in India are family-owned and operated and their informal nature is evident in the way they operate. In 2015–16 approximately 87 percent of unincorporated non-agricultural enterprises were run from a fixed location, either within the household (about 44 percent) or outside the household (about 43 percent). Furthermore, it can also be observed that the majority of OAEs and establishments in rural areas were reported to have been operated from within the household, whereas in urban areas, the majority had been reported to have been operated from an outside location. According to the Sixth Economic Census (2013–14), more than a third of all establishments (36%) were based at home, i.e. inside the household, whereas around 18% operated outside the household without a fixed location. In looking further into the ownership types of these establishments, it is found that 80 percent of women owned proprietary businesses operated from within the household, and 3 percent operated without a permanent location while, men had a lower chance of running their business from their homes and almost half of them had some kind of fixed structures to operate out of. Therefore, a gender disparity based on the location of the proprietary enterprises is evident. The distressing situation of women entrepreneurs in India has been captured in a study conducted by Chakraborty et al. (2019), which found that a significant number of women entrepreneurs face various operational problems while running their enterprises, among which shrinkage/fall in demand is one of the biggest challenges.

Table 4: Operational Location Based Percentage Distribution of Enterprises

Location of enterprise	Rural			Urban			Total (Urban + Rural)		
	OAE	Establishment	All	OAE	Establishment	All	OAE	Establishment	All
Within household premises	56.2	26.5	53.7	40.3	12.9	33.9	49.2	16.7	44
Outside household premises with fixed location	28.9	64.3	31.9	44.2	85.3	53.8	35.6	79.5	42.5
Outside household premises without fixed location	14.8	9.3	14.3	15.6	1.8	12.3	15.2	3.9	13.4

Source: MSME Annual Report, 2020

In spite of the difficulties faced by women-owned businesses in India, most of these businesses operate year-round (perennial in nature). However, it is equally important to remember that women engaged in perennial entrepreneurial activities declined by 4% between 2005 and 2013. Table 5 shows the distribution of women-owned businesses by nature of their operation. About 89 percent of the total number of estimated women-owned businesses were perennial in nature, 9 percent were seasonal, and the remaining 2 percent were intermittent in nature in 2013.

Table 5: Distribution of women-owned enterprises in 2013 by nature of operation

Nature of operation	Percentage
Perennial	89
Seasonal	9.03
Casual	1.97
Total	100

Source: Calculated from unit level data of the 6th Economic Census

It is important to assess whether the perennial nature of the majority of women-owned enterprises enabled them to obtain the financing and other credit facilities they needed to run their businesses. There is cause for concern when 79% of women-owned firms were self-financed, and that the percentage of firms receiving financial assistance from the government stood at only 3% in 2013 (see Table 6). Access to capital is clearly one of the most significant barriers to women engaging in entrepreneurial activity.

Table 6: Finance based Distribution of Women-owned Establishments

Access to Finance	6th Economic Census (2013)
Self-finance	79.1
Financial assistance from government source	3.4
Borrowing from financial institutions	1.1
Borrowing from non-institutions/money lenders	0.8
Others	15.7
Total	100

Source: Calculated from unit level data of the 6th Economic Census

The Pradhan Mantri Jan-Dhan Yojana program was launched in 2014 to provide universal access to banking services in India. The program successfully reduced the gender gap in bank account ownership from 20 percent to 6 percent between 2014-2017. Women entrepreneurs usually resort to bootstrapping either by relying on their savings or seeking financial help from friends and family or microloans to finance their ventures. It was estimated in 2012 that the financing gap for micro, small and medium enterprises was USD 116 billion, which is equivalent to 73 percent of total demand (IFC 2012). Between 2017 and 2019, enterprises like 59-Minute Loan Platform helped India's 'Women's Financial Inclusion (F/M)' indicator score rise from 58.2 to 69.0, however a shortage of adequate capital prevents women from starting ventures that are innovative and capital-intensive projects. Thus, the majority of Indian female entrepreneurs who are under 30 years of age who are starting businesses rely heavily on self-financing, for which they must possess substantial savings, inheritance, or physical property that can be mortgaged.

2.7 Venture Capital ecosystem in India

The Indian venture capital industry began to emerge in the early 1990s, largely with capital raised from abroad. The industry evolved as a major source of finance for local technology-based businesses who have limited credit options and other sources of private finance. The government has restrictions in place for foreign investments in various sectors (Mustafa, M. 2019). However, in 1991, the government eased these restrictions allowing for the flow of foreign investment into the underfunded market. The investment climate in India has improved significantly since the economic reforms in 1991.

In addition to that based on the “Ease of doing business”, index created by the World Bank, India is ranked at 77th out of the 190 countries in 2018, which is an improvement by 65 places in the previous four years. Therefore, a robust macroeconomic environment has provided an impetus to the venture capital industry in India.

With the growing awareness of the need to unleash the full potential of entrepreneurs in India there has been a slew of targeted public-sector interventions in the ecosystem. With a favourable political and fiscal environment in the country, India has become an attractive destination for Venture capitalists for investments.

The Indian Venture Capital industry in India evolved through three different stages

- Between 2011 and 2015, the Indian start up ecosystem has witnessed significant changes, with investors feeling optimistic about the expansion and scalability of the ventures.
- Between 2015-2017, the VC industry went through a maturity and growth phase with higher quality investments.
- Since 2018, high profile exits have helped boost investor confidence again.

In 2019, the Indian VC industry deployed a record amount of \$ 10 billion in capital into the Indian markets (Bain & Co. 2020). This achievement can be attributed to the increased deal volume despite the average deal size going up (Business Line, 2020). Due to the thriving start up ecosystem and the increased demand for investment deals, there was also an increase in the seed and early-stage deal size in the same year. From the Figure 5, it can be seen that the Consumer tech, Software and IT enabled services, financial services and B2B commerce & Tech sector received the highest percentage of investments in 2019, constituting about 80% of the overall VC investments in the country during that year.

Chapter 3 Previous research: Gender differences in venture financing

Creative destruction at the hands of entrepreneurs gives rise to innovation, which, in turn, leads to increased prosperity for all of society (Schumpeter, 1947). Due to its independent nature, entrepreneurship is associated with high uncertainties and risks, but there may also be significant rewards (Boermans & Willebrands, 2017; Brockhaus, 1980). Due to this, entrepreneurial ventures are more susceptible to failure (Riar, Bican, et al., 2021). Lack of adequate access to capital and resources is one of the most significant reasons for failure, rendering even the most promising ideas obsolete by impeding their development and implementation (Arvanitis & Stucki, 2014).

Entrepreneurial ecosystems comprise of the ‘... set of actors, institutions, social networks, and cultural values that produce and sustain entrepreneurial activity (Roundy et al., 2018). The core principle of the ecosystem’s perspective is that the stronger the ecosystem, the greater the possibility of success for businesses working within it (Jha, Srivardhini K., 2018). India has the world's third largest and fastest-growing entrepreneurship ecosystem (Economic Survey 2020-21). The increased entrepreneurial activity in the country has resulted in a slew of targeted public sector interventions and subsidised debt schemes that are backed by Developmental Financial Institutions in the country. Despite the various initiatives by the Government of India, one of the main operating challenges of the Indian entrepreneurial ecosystem is fund raising (Jha, Srivardhini K., 2018).

Research studies have advocated two perspectives on the issue of female-owned business financing: one perspective argues that female entrepreneurs face obstacles to financing their endeavors due to discriminatory practices on the part of lending institutions and investors. Similarly, other research has focused on the characteristics of the firm, the personal traits of entrepreneur, as well as the societal factors that hinders women entrepreneurs from accessing finance.

Several recent studies have investigated women entrepreneurs and their access to financing, but far fewer have examined venture capital as a source of financing (Jennings and Brush 2013). Numerous studies have indicated that women typically launch their startups with less financing than men (Verhuel and Thurik 2001; Carter et al. 2003; Fairlie and Robb 2009; Coleman and Robb 2012). In a study conducted in the UK, it was found that women are less likely to build up financial capital because they tend to accumulate and use less social capital, especially in the venture capital industry (Roomi, Harrison, and Beaumont-Kerridge 2009). The likelihood of female entrepreneurs

receiving private investment was significantly lower than that of male entrepreneurs, but the difference was less pronounced with more available information, including information on government funding (Gicheva and Link 2013). Research studies also indicate that geographic region, ethnicity, and race also has an influence, with women in rural areas have limited access to venture financing (Rubin 2010). Information asymmetry is holding back rural women entrepreneurs in India from running their business. Most semi-urban and rural Indian women who wish to start their own micro-business are either unaware of or afraid to apply for financial assistance provided through welfare initiatives (Shah 2021).

Chapter 4. Theoretical Framework

4.1 Discrimination Theory

The discrimination theory asserts that women are less accepted in specific professional activities, despite having comparable skill and qualifications. There is evidence that female-owned businesses are discriminated against when seeking bank loans (Treichel and Scott, 2006; Bellucci et al., 2010) because professionals providing loan approval use stereotyped notions about women in business and their potential. Buttner and Rosen (1988) argue that female entrepreneurs seeking funding are at a disadvantage to their male counterparts because of skepticism towards their capacity to manage businesses in traditionally male-dominated fields. They also found that credit officers, regardless of gender, were more likely to attribute entrepreneurial characteristics such as leadership, ability to take risk, receptive to change, emotional management, and the ability to think independently to males than to females.

Gender discrimination can take many forms, such as charging female-owned businesses higher interest rates, requiring more collateral than male-owned businesses, or receiving counteroffers that are more expensive than those offered to the other gender (Riding and Swift, 1990; Coleman, 2000; Buttner and Rosen, 1989; Alesina et al., 2013; Bellucci et al., 2010; Muravyev et al., 2009; Coleman et al., 2018).

According to Coleman (2000), women in the service sector spent more for start-up loans and had to provide more collateral than their male counterparts. In addition, female-owned firms (Cavalluzzo et al., 2002) reported being less happy with their loan conditions than male-owned businesses (Orser et al., 1994; Fabowale et al., 1995; Muravyev et al., 2009).

For women entrepreneurs, obtaining venture capital has always been a challenging task (Brush et al. 2001, 2004; Gatewood et al. 2009; Coleman and Robb 2012). Women entrepreneurs receive fewer early-stage equity investments, both in the form of venture capital and angel investment, even though financial capital is a vital resource for growing their businesses (Brush 1992; Brush et al. 2001; Becker-Blease and Sohl 2007). Only 25% of entrepreneurs seeking angel financing are women-led enterprises, and only 4.25 percent of businesses that secure deals with business angels are women-run businesses (Sohl, 2019). This difference is also evident in the case of women as

allocators. Female participation in venture capital and private equity is considerably smaller than in other industries.

Despite an increase in female angel investors, women account for only 24.9 percent of all business angels (Sohl, 2019). Many female entrepreneurs are unable to realise their full potential because of the gender gap in early-stage investment (Brush et al., 2017; Harrison & Mason, 2007). Swartz et al. (2016) discovered that female entrepreneurs who negotiated for venture financing with a male negotiator were more likely to succeed than those who did not. In the context of SME financing, discrimination can take several forms, including lower approval rates, variations in terms of financing, and the amount of funding that the women led businesses receive.

Prior research studies also suggests that firms owned by men may be more inclined to seek external equity than firms owned by women. While gender did not play a role in determining the capital structure of small enterprises, Chaganti et al. (1995) found that female entrepreneurs preferred internal equity when compared to male owners. Women are more prone than men to use internal sources of financing (such as personal savings or inherited money) rather than external sources of financing, (Bennet & Dann, 2000; Haynes & Haynes, 1999). Also, it is possible that approval rates can differ based on ownership gender. This is due to several factors. From a demand perspective, women are significantly less likely than men to own high-technology businesses and intellectual property (Menzies, Diochon, and Gasse, 2004). These characteristics make female owned businesses less appealing to venture capitalists. According to Orser and Hogarth-Scott (2003), female-owned businesses are less inclined to grow, and seek expansion than their male counterparts. Brush, Carter, Greene, Hart, and Gatewood (2000, p. 3) contend that (1) structural barriers such as differences in social networks make it more difficult for women to become part of the formal, largely male venture capital network, and (2) differences in the human capital of female entrepreneurs can hinder their ability to make connections to close deals. Besides institutional venture capital funding, women may also seek equity financing from other sources. Family and friends, employees, and formal and informal venture capitalists are all possible sources of equity money. Previous research, on the other hand, has not investigated this distinction.

4.2 Occupational Crowding

Bergmann's (1986) theory of occupational crowding discusses the notion that certain sectors of the economy are dominated by a single gender, rather than being balanced between them. In certain sectors, dominance can be beneficial to certain sub-groups by reducing competition for the most desirable occupations when prevailing gender ratios discourage individuals of other genders from joining the industry.

According to Bergmann (1986, p. 128), occupational crowding also has the following effect:

When a group is segregated and, in addition, is crowded into a relatively narrow segment of the labor market, the members will be less productive, and their pay will be lower. The theory suggests women tend to crowd into sectors that are more competitive due to their concentration in the secondary market, resulting in a lower return on investment. When compared with men, women are mostly involved in contractual, temporary, or casual jobs (Sixth Economic Census, 2013). Therefore, women-owned businesses are likely to operate in relatively low growth sectors. Such businesses are less likely to thrive and generate the kinds of returns that is appealing to equity investors.

4.3 Structural Differences

This body of research examines the challenges faced by women entrepreneurs in acquiring funding by systemic, structural, and social differences (founder profile, the firm's age, number of employees, industry group). Women have a harder time accessing loans and securing capital for their businesses because they are younger, their firms have a shorter credit history, and they owners lack financial and management experience (Lusardi and Mitchell, 2014; Riding et al., 2017). According to Lafortune and St. Cyr (2000); Shaw et al., (2007), banks prefer to work with existing clients with whom they have been engaging in transactions for a long time. In general, female-owned firms tend to be smaller in size due to the relatively short time they have been in business, which would explain why they require less financing. This is also attributed to the fact that majority of the women led businesses operate within the retail and services sectors (GEM, 2018)

Because appropriate quantitative analyses of the causes of the gender gap in entrepreneurial financing in India are missing, an exploratory method is the best way to go forward from anecdotal evidence. Through this research work I attempt to address the following research questions:

1. What is the percentage of venture capital funding to women-led businesses in India?
2. Is there a difference between men and women entrepreneurs when it comes to venture capital-funded businesses based on the industry sector they are in?
3. Do men and women entrepreneurs differ in their investment stage?
4. Are there variations between men and women entrepreneurs receiving funding based on state or region?

The next chapter presents the data set and discusses the results of the analysis.

Chapter 5: Methodology

To understand the gender differences in venture capital funding in India, the research drew on data collected from Crunchbase, a platform for finding business information about private and public companies. This platform provides access to data on all companies that have received investment from private equity and venture capital firms in the last decade. A total of 10,976 companies were analyzed for this study. After this, the companies were categorized as "venture-backed" if they had received institutional funding between 2015 and 2020. Companies receiving private capital or some other form of external financing outside the 2015 - 2020 timeframe, or those which had already exited during the study period, were excluded from the sample. The study has only included companies that were headquartered in India. Based on the selection criteria for the data set, 3,109 unique companies were included in the study. A 'firm with a women founder' is defined in the study as a firm with women as either the founder or a cofounder. This also implies that firms with 50-50 shared ownership are included in this category. Only firms which do not have any women representation in the founding team are included under the category 'firms with no women founder'. Because there was inadequate data for variables such as the number of employees, revenues, industry sector, and stage of the funding process, the study has included only fewer companies in some tables provided. The following section presents the analysis that addresses the research questions in this study.

Chapter 6: Results

RQ1: What is the percentage of venture capital funding to women-led businesses in India?

In 2019, Venture Capital investments deployed a record amount of USD 12 billion in Indian startups and this represents a 36 percent increase over the previous year and the largest capital deployment ever in the Indian startup ecosystem.

Over the six-year period, from 2015-2020, women led businesses in India received 11% of the overall venture capital investment in India. To be more exact, women established 520 of the 3,109 total venture-backed enterprises in our database (Table 7). This figure is more than twice the proportion of women entrepreneur who obtained venture financing in 2000. There was not a single year between 2005 and 2014 when women-led enterprises got more than 9% of total venture capital invested in private companies (153 women-led ventures received investment compared to 1349 men-led ventures in the same period).

During the initial years of the period under study, there has been an increase in the number of investments in the women led companies and in the total value of investments in the firms. In 2015, women led businesses received 15% (\$ 926 million) of the \$6.3 billion invested, which did not change substantially in 2016. However, it can be seen from the data that this increasing trend started to reverse in 2017 with only an investment of USD 466 million which is just 6% of the total investment during that year.

An important point to consider is that the total amount of dollars invested by way of venture financing in India, increased between 2015-2020, indicating an increase in the amount of venture capital allocated to support enterprises in the country. However, when we consider the percentage of the total VC investment received by firms led by women entrepreneurs, there has not been any substantial change and has not breached the 16% mark. (See Table 8).

Table 7: Number of VC investments in companies 2015-2020

Firm category	2015	2016	2017	2018	2019	2020	Total/Average
Women as Founders	75	72	81	78	141	73	520
	17%	16%	6%	12%	7%	12%	11%
No women as founders	397	343	371	418	712	348	2,589
	83%	84%	94%	88%	93%	88%	89%
Total	533	471	508	552	967	482	3,109
	100%	100%	100%	100%	100%	100%	100%

Table 8: VC investments in companies 2015-2020 (in \$ million)

Year	2015		2016		2017		2018		2019		2020	
Women as founder	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Total amount (in \$ millions)	926	5,243	691	3,762	466	7,236	1,091	7743	884	12,099	1,061	7,759
Percentage (%)	15	85	16	84	6	94	12	88	7	93	12	88

The study also examined the early stage (first) and late stage (“follow on” or last) venture financing in the six-year period to understand if there are any differences between firms with women founders, and firms with no women founders. The initial venture capital investment a company receives is known as early-stage financing, whereas later-stage financing refers to future venture capital investments (these investments may include new investors who decide to invest in a previously funded business).

It can be seen from Table 9 that between 2015-2020, firms with women founders when compared with firms with no women founders, on average, received less early-stage venture investments (\$6 million vs. \$8 million) and late-stage financing (\$24 million vs. \$35 million).

In the case of late-stage financing, in the first two years of the period under study, firms with women founders received more funding (an average of \$31 million) than firms with no women founder (an average of \$27 million), but this trend continued to decrease in the following years. This is despite an increase in the overall number of firms being venture financed over the years. In 2019, firms with no women founders received almost 74 % of the total late-stage round of funding.

Table 9: Average early stage and late-stage venture financing 2015-2020 (in \$ millions)

Year	Women as founder/co-founder		No women as founder	
	Early stage	Late stage	Early stage	Late stage
2015	\$7	\$37	\$9	\$31
2016	\$6	\$25	\$7	\$22
2017	\$4	\$12	\$7	\$39
2018	\$6	\$32	\$8	\$32
2019	\$7	\$14	\$11	\$50
2020	\$8	\$21	\$8	\$42

From the study findings, we can infer that the higher number of firms receiving funding in the early stages of growth is indicative of a healthy narrative of diverse entrepreneurs. This may translate to a more diverse mix of deals at a later stage of growth as the early-stage companies grow and attract more capital. There may be unconscious biases, however, that make it harder for female entrepreneurs to acquire higher growth funding (Kanze et al. 2017).

RQ2: Is there a difference between men and women entrepreneurs when it comes to venture capital-funded businesses based on the industry sector they are in?

Table 10 and 11 presents a breakdown of the sample data on firm size and sector by gender of ownership for the year 2020. Across the industry groups, Software and IT enabled services received the highest number of venture capital investments in 2020, 169 or 40 percent of the total

number of venture capital investments. It can be also seen from the table that the Software and IT enabled services sector also received the highest dollar amount of venture capital funding, nearly 64 percent of the total (\$5.6 billion of the total \$8.8 billion). This was followed by the consumer products and services sector (126 or 30%) with 17 % of the total dollars invested. The third highest investment was in the financial services sector with a dollar investment of \$1.3 billion (16%).

Table 10: Industry wise break down of firms with no woman as founder and with women as founders in 2020 – Number of deals

Industry	Total number of companies	Total number of companies with no woman as founder	Total number of companies with women as founder	Percentage of companies with women as founder across all industries	Percentage of companies within each industry with women as founder
Software & IT enabled services	169	156	13	3%	8%
Consumer Product and Services	126	79	47	11%	37%
Financial Services	74	63	11	3%	15%
Business products and services	52	50	2	0.5%	4%
Total	421	348	73		

Table 11: Industry wise break down of firms with no woman as founder and with women as founders in 2020 – Investment value in \$ millions

Industry	Total Amount (in \$ million)	Total Amount invested in firms with women founder (in \$ million)	Total Amount invested in firms with no women founder (in \$ million)
Software & IT enabled services	5,612	78	5,534
Consumer Product and Services	1,466	791	674
Financial Services	1,373	154	1,218
Business products and services	367	35	332
Total	8,819	1,060	7,759

Firms with women founders received the highest percentage of venture capital investments across the consumer products and services sector. The consumer products and services sector received 11% (47) of the total number of investments (421), an amount of \$791 million out of the \$8.8 billion overall amount of dollars invested.

This was followed by Software and IT enabled services and financial services sector. Both the sectors received just 3% of the total number of investments. However, the case differs when considering the amount of investment in each of these sectors.

The women founded firms in the financial services sector received an amount of \$154 million out of the total investment of \$ 8.8 billion while the Software and IT enabled services received just \$78 million of the total dollars invested. Fintech provides opportunity to increase diversity in financial services and customer-centricity is the future of fintech. Women led ventures are increasingly focusing on customer and user experience and leveraging technology to provide an optimal digital experience. These companies are often not only founded by women, but also designed to cater to the specific needs and wants of women in their target market.

In addition to analyzing the distribution of venture capital investments by industry by companies with female founders and those without, the study also looked at the amount of dollars invested in companies with female founders. We can also see that the sectors where women founded firms received the highest amount of investment represent only a small portion of the overall venture capital financing in the country.

The study also analysed the relative distribution of venture capital investments between companies with women founders and those with no women founders by the industry groups. And we can see that the sectors in which women founded firms received the highest amount of investments are substantially small in the overall venture capital investment landscape.

Even though the consumer product and services sector received the highest proportion of the total dollars invested among women founded firms, out of the overall deals during the year, this sector received funding for just 126 deals as compared to the Software and IT enabled services sector, which received funding for 169 deals, a sector in which women founded firms constituted just 8% of the firms. In terms of the amount of dollars invested, women founded firms in the software and IT enabled sector received \$ 78 million of the total \$ 5.61 billion. Overall, the software and IT enabled sectors accounts for 64% of all venture capital investments of which firms with women founders received just 7 % of the overall funding.

At p-values less than 0.000, chi-square (χ^2) and contingency coefficients of the data in Table 11 for the joint distribution of sector with gender was statistically significant. This finding indicates that the sector is not independent of the gender of ownership.

In the context of assessing potential gender differences in lending rates, this finding reinforces the necessity of controlling for size and sector. Women led businesses were much more likely than men to be concentrated in the consumer products and service sectors. The observations underline the rationale of occupational crowding, in that women founded businesses are more likely to be found in sectors of lower value to venture capital firms.

RQ 3: Are there differences in the stages of investment between men and women entrepreneurs?

To understand if there exists any difference between firms with women founders and firms with no women founders based on the stages of investment, the study examined the funding activities between 2015-2020 across the various stages of firm’s growth.

The late-stage enterprises received the highest investment across the various stages, accounting for 48 percent (1,836) of all investments (Table 12). This is followed by early-stage venture investments, which accounted for 34% (1,273) of total investment, while seed money accounted for 18%. It can be seen from the table that firms with women founders and firms with no women founders are more likely to receive late-stage financing, though the amounts that women led firms receive widely lags with the amount received by 100% male led firms. During the period under study, the late-stage venture capital deals has increased by approximately 60%. Not only has the deals increased between 2015-2020, but the total amount of late-stage venture investments has also increased by 70%.

Table 12: Break down based on stage of funding of firms with woman as founders and with no woman as founder – Number of deals

Stage of venture financing	Total (Frequency)	%	Firms with women as founders	Firms with no women as founders	Percentage of women led firms for each stage (seed to total seed)	Percentage of each stage for women led firms
Seed	783	18%	146	637	19%	23%
Early-stage	1,273	34%	227	1,046	18%	35%
Late-stage	1,836	48%	293	1,543	16%	42%
Total	3,892	100%	666	3,226		100%

In addition, women are under-represented in the number of startups receiving seed capital, raising another important point of discussion as to whether they are getting left out of this important step in funding important. Firms founded by women received only 12% of the total seed funding (\$88 million of the total \$726 million) (Table 13)

Table 13: Break down based on stage of funding of firms with woman as founders and with no woman as founder – Investment value in \$ millions

Stage of venture financing	Total (Frequency)	Total amount (\$ millions)	Total amount (\$ millions) Firms with women as founders	Total amount for firms with no women as founders (\$ millions)
Seed	783	726	88	639
Early-stage	1,273	9,497	1,336	8,161
Late-stage	1,836	39,467	3,783	35,684
Total	3,892	49,690	5,207	44,483

Table 14 shows the joint distribution between size of the firm and industry sector of the firms founded by women. It is very clear that firms with women as founders are mostly micro and small business units with a revenue range of \$1M to \$10M² and are relatively young firms with more than 50% of the firms being founded after 2015. The lack of adequate seed capital for kickstarting their business operations and the evident differences between men and women in the follow up

² Ministry of Corporate Affairs, Government of India, Classification of MSMEs

Micro- Investment in P&M/Equipment not more than INR 1 crore and Annual Turnover not more than INR 5 crores

Small- Investment in P&M/Equipment not more than INR 10 crores and Annual turnover not more than INR 50 crores

*Medium-*Investment in P&M/Equipment not more than INR 50 crores & Annual Turnover not more than INR 250 crores

stages of investment makes it difficult for women to set up their ventures and hence they to resort to self-financing from their personal savings, or from friends and family.

Table 14: Distribution of firms with women founders based on industry and revenue range

Industry Sector/ Revenue Range	Less than \$1M	\$1M to \$10M	\$10M to \$50M	\$50M to \$100M	\$100M to \$500M	\$500M to \$1B	\$1B to \$10B	Grand Total
Business Products and services	1	1	-	-	-	-	-	2
Consumer products and services	8	26	4	1	8	-	-	47
Financial Services	1	4	6	-	-	-	-	11
Software	-	13	-	-	-	-	-	13
Grand Total	10	44	10	1	8	0	0	73
	14%	60%	14%	1%	11%	0%	0%	100%

RQ 4: 1. Are there variations between men and women entrepreneurs receiving funding based on state or region?

The Table shows the state-wise location of firms that received venture capital investments in India during the period, 2015-2020. The state of Karnataka received the highest number of investments (1049) during the period constituting 35% of the total investments. This was followed by Maharashtra with 25% (759) and Haryana at 16% (483) (Table 15).

Table 15: Number of investments received by the top six states

State	Women as founder		No women as founder		Total	
	Frequency	%	Frequency	%	Frequency	%
Tamil Nadu	29	17	137	83	166	6
Karnataka	176	17	873	83	1049	35
New Delhi	47	14	296	86	343	12
Haryana	79	16	404	84	483	16
Maharashtra	125	16	634	84	759	25

Andhra Pradesh	26	15	153	85	179	6
	482	16	2497	84	2979	100

The study did not determine any significant differences between companies with women founder from companies with no women founders based on location, so it is quite surprising that women are still, practically speaking, lagging behind in the market for venture capital funding. The two states with the highest percentage of venture capital investments in women founded firms are Karnataka and Maharashtra. This comes as no surprise because Bangalore, the largest city in Karnataka has evolved from a dormant second-tier city to a regional anchor for global technology businesses and a hotbed for innovative technology-driven startups since the late 1990's. Bangalore's robust network of higher education institutions in engineering, business management, and sciences has nourished a generation-worth of talent, and the city has continued to grow since then.

Due to the availability of cheap labour and low-cost land following India's independence in 1947, Bangalore evolved into a hub for public sector industries, particularly in aerospace, telecommunications, heavy equipment, space, and defence, and the government made significant investments.

Given the existing infrastructure and wealth of resources, this paved the path for many global firms to follow suit and establish headquarters in the city. Aside from global goliaths like Amazon and Uber, companies like Cognizant, Texas Instruments, Wipro, Microsoft, SAP LABS, and Accenture make up the list of infotech giants.

Incubators are another contributor to this increase in investment deals in Karnataka. With approximately 250 incubators, India ranks third in the world in terms of the number of incubators of which 41 incubators are located within the Tier-I cities (Korreck, S. 2019). A major number of incubators and accelerators are run by universities and educational institutions, but there are also a number of privately owned incubators and accelerators, some of which are homegrown, while others are set up and run-in conjunction with international partners.

For the period under study, 2015-2020, 19% of the companies that received venture capital investments were firms in the consumer products and services sector and 21% of the companies in Maharashtra received venture capital investment in the consumer products and services sector. Consumer products and services accounted for 30% of the funded companies.

Chapter 7: Discussions and Implications

The findings indicate that women entrepreneurs have made modest headway in attracting venture capital in the recent years. From less than 9% in 2000 to 17% in 2015, the percentage of firms with women founders have considerably increased over the past twenty years. This increase can also be seen in the total amount of investment in the women led firms. However, across the globe, the average amount of venture capital investments in firms with women founders is much lesser than the firms with no women founders.

Based on the research findings, there has been a shift in the stage of funding that women are more likely to receive, with early-stage funding being more common in the early 2000s, but later-stage investment being more common today. Across the industry groups, among the firms with women founders the consumer products and services sector, followed by software and IT enabled services and financial services, received the largest share of venture capital investments across all industry sectors.

Women are under-represented in the number of startups receiving seed capital, raising another important point of discussion as to whether they are getting left out of this important step in funding important? The firms founded by women were mostly micro and small business units with a revenue range of \$1M to \$10M and were relatively young firms with more than 50 % of the firms in the study being founded after 2015.

Despite an increase in venture capital investment over the last decade, there is still a large disparity in venture capital funding between companies started by women and companies founded by men. It is important to note that only 17% (520) of the firms that received venture capital funding during 2015-2020 were founded by women.

Several recent studies on women seeking venture capital funding suggest that women should be proactive to move forward in the venture capital space and obtain more venture capital financing (Brush et al. 2004). Some early recommendations suggested that that woman ought to have "great aspirations", be more financially proficient, or start businesses in high technology-based sectors.

Few other studies stressed on the importance of networking and making connections and prep themselves for the investment pitch to be more like that of men. Based on my research, despite practicing the above-mentioned methods, women entrepreneurs do not receive proportional increases in early-stage investment funding. It is then necessary to determine what other types of changes might be equally as necessary or even more necessary.

There is no doubt that India has established a robust and supportive entrepreneurship ecosystem to attract and promote women entrepreneurs. Women are underrepresented as founders of venture capital-backed enterprises because they are smaller, younger, and focused in specialised industries, and they receive a small share of venture capital funding. An important finding is that venture capital firms that choose to invest in the firms led by women entrepreneurs perform better than firms led entirely by male entrepreneurs when measured by their investment outcomes³. There is also evidence that the proportion of women investors in the venture capital industry is declining and the role of women investors in the investment process is being overlooked.

The findings from the study poses new questions regarding the access to venture capital funding by women entrepreneurs in India. Even though it recognises the model's unique and highly specialised purpose, India's venture capital model appears to be unsuitable for many entrepreneurs, particularly women. The report recommends future research directions that could help us better understand why women entrepreneurs continue to be underrepresented in venture capital in India. For this purpose, three different theoretical perspectives are discussed; Networking, Institutional Barriers and Stereotyping and homogeneity.

7.1 Are women-led companies more risk averse?

On the demand side, interviews and empirical evidence suggest that women-led businesses are less likely than men-led businesses to seek external finance, indicating a risk aversion. Based on the Census 2011, the percentage of the female population is 48.04 percent compared to 51.96 percent male population in India, yet they make up just 20% of its startup entrepreneurs. Combining this imbalance with women's self-reported preference for self-funding or "bootstrapping," such

³ https://www.dowjones.com/collateral/files/WomenPE_report_final.pdf.

businesses may contribute to a reduced demand for external financing for their business.⁴ Many women in India, even though they can obtain external funding to help kickstart their nascent businesses, tend to prefer to invest a substantial amount of start-up capital themselves despite the availability of external investment opportunities.

Funding challenges of women entrepreneurs in India

1. Women entrepreneurs rely on their family members particularly their spouses and friends to fund their business in the initial stages (Economic census, 2013).
2. The alternative to conventional loans may be more costly forms of finance, such as venture capital, or women may decide to forgo external financing altogether. (Bennet & Dann, 2000; Haynes & Haynes, 1999).
3. Access to equity financing, including angel funding, is often difficult for women.
4. Besides relying more on family members for finances than men, women also seek advice from family members more often than men do (Economic Census, 2013).

Several studies examining differences in borrowing patterns among men and women to support small-business growth indicate that women tend to obtain fewer loans from banks, often at a higher cost (Sena, Scott, and Roper, 2012). According to a World Bank report, 16% of women-owned small and medium-sized companies rely on bank loans to finance their businesses, compared to men who constitutes 22%. Findings from the same study indicates that only 2% of women led companies resorted to venture capital to finance their business operations as compared to men who constitutes a 5% (OECD, World Bank 2018).

As outlined above, women entrepreneurs in general are attracted to bootstrapping. However, studies have shown that the preference for self-funding poses greater challenges for women than for men. Eddleston (2018) in his study found that when seeking capital to start a business, female entrepreneurs are regularly examined more closely by their family and friends than their male counterparts.⁵ Therefore, it is worthy to note that the preference of women entrepreneurs for bootstrapping their ventures does not necessarily indicate a negative trend. Instead, this may be a

⁴ Relevant studies include Facebook, OECD, and World Bank (2018) and Eddleston (2018, pp. 1–10).

⁵ Eddleston (2018) “controlled for whether the business operated in a traditional industry for women” to eliminate this factor, given that the sector a business serves has been shown to impact levels of external financing pursued and received (p. 5).

wise decision, depending upon the nature of the venture and the scope of the ambitions that the founding team has for the enterprise.

7.2 Structural Barriers

Unlike many other industries, venture capital has a longstanding institutional environment. However, since its inception in 1969, the participation rate is significantly small when compared with other industries (Gompers and Lerner 2001). The institutional structure of the venture capital industry was developed to deal with the information asymmetries between principals and agents, as well as to ensure that venture capitalists, who invest other people's money, provide their investors with returns (Sahlman 1990). In 2020 there were around 520 active VC funds in India⁶. With an estimated 4% share of global venture capital investments, the Indian venture capital ecosystem has grown over the last 15 years, but it remains comparatively young in comparison to developed markets such as the United States and Europe (Mustafa M. 2019). There has been a significant increase in venture capital investments in India, as compared to 2004, when they were almost nonexistent.

Information asymmetry and uncertainty impacts the effective functioning of the venture capital industry in India. There have been advances in techniques, processes, and policies that maximize the control of the principal over the investee firm while reducing information asymmetry and uncertainty (Jensen and Meckling 1976; Amit, Brander, and Zott 1998; Gompers and Lerner 2004). By ensuring greater transparency (Chan 1983), employing detailed screening processes, establishing contractual agreements, and other similar techniques, investors hope to overcome informational asymmetries and uncertainties in the investment process.

Several methods are employed by investors to solve these problems, including detailed screening processes, implementing financial contracts that have a binding on the party involved, having a seat on the board, and other similar practices (Chan 1983; Kaplan & Stromberg 2003). It is important to note that the rules, beliefs, and practices existing in this environment are predominantly tailor made for men (Becker-Blease, and Sohl, 2007). Kanze et al. (2018), for example, looks at interactions between investors and entrepreneurs at pitch competitions and find

⁶ https://www.bain.com/globalassets/noindex/2020/bain_report_india-venture-capital-report.pdf.

that female entrepreneur is often asked prevention-focused questions (concerning the return of capital), while male entrepreneurs are asked promotion-focused questions (concerning the growth of the venture; see also Becker-Blease and Sohl, 2007, and Gupta and Turban, 2012). This distinction has been shown to affect funding (Brockner et al., 2004; Lanaj et al., 2012), explaining prejudices toward female entrepreneurs. Future research work could look in to how to bridge these gender gaps in venture capital decision making by looking into the institutional setting such as the practices, policies, and procedures in venture capital investment decisions and how they influence the selection of the prospective investee firm, how the entrepreneurial ecosystem can be made conducive for an unbiased institutional setting in the venture capital industry

7.3 Gender Stereotyping

An entrepreneur needs to pitch his or her business to investors to raise money (Mason and Harrison 1996). During the pitch the entrepreneur presents the venture idea, the problem it aims to address, the investment opportunities and the ventures' unique value propositions. Cognitive thinking and perceptions influence the investors decision whether to invest or not in a venture (Baron 1998). As a result, the entrepreneurs who are successful in securing investments during a pitch are mostly men (Gupta et al. 2009; Balachandra et al.).

Conversation excerpts from a roundtable discussion on 'the fundraising conundrum' by Entrepreneur India is summarised below:

“I remember being told point blank in 2012 that it would be hard to raise money for a solo female founder and that my male co-founder would need to come on board full time before any investment can be made,” and *“VCs over-index on unicorn pitches and in my experience, this skill of pitching comes more naturally to "alpha men" compared to women, even if the female run companies are scaling just as fast as their male counterpart's companies.”* **Vineeta Singh, Co-founder and CEO, SUGAR Cosmetics.**

“During our second fundraise in late 2019, I joined my male co-founder for a meeting with a clutch of angel investors in Delhi. It was my first brush with gender bias with investors,” said the female founder of a tech startup, who wished to remain anonymous. *She also said ““Most of the men present in the room spoke only to my colleague even though I was pitching alongside him. I felt invisible”.*

*“During the first rounds of raising funds for my start up, investors were keener on talking to the male co-founder rather than me. It took me a long time to establish that I lead my business and have an equally important role to play as my male co-founder,”. **Malika Sadani, founder and CEO, The Moms Co.***

Several research work and media documents echo similar experiences by women entrepreneurs in the country. During the pitch women are asked more of personal questions or questions regarding the sustainability of the venture centred on discussing the likelihood of the company failing. One thing that can be inferred from this is the conscious biasedness and the lack of trust on the part of the investors towards women entrepreneurs.

According to the theory of gender homophily, people prefer to associate with individuals with similar backgrounds as this improves their perceptions and builds trust (Brashears 2008). Investors will choose to invest in male entrepreneurs because their roles are more aligned, leading to the assumption that male entrepreneurs have a higher chance of success. For example, entrepreneurship is often portrayed as a male-dominated enterprise (Ahl, 2006; Gupta et al., 2009), and some investors may perceive the ideal entrepreneur as a male (Thébaud, 2015; Malmström et al., 2017; Balachandra et al., 2019).

7.4 Networking

Several studies suggest that the venture capital business is strongly networked, not only among venture capital firms, but also among other actors who help venture capital firms close deals (Kenney and Florida 2000; Ferray and Granovetter 2009). Individuals with high social capital and strong networking links have easier access to resources and, in particular, money (Davidsson and Honig 2003).

Regardless of size, sector and scalability, businesses that leverage networks can sustain and succeed in their journey. The nation-wide lockdowns in India and across the globe due to the Covid-19 pandemic has proved the importance of ‘connections’ in the business field. Business networks are vital to running a successful business because they are a repository of information. Businesses can tap into their own contacts for new ideas, find the right talent, unlock new markets, and explore the various funding options for their ventures. Business networks help in building relationships that translates into professional collaborations and knowledge sharing. For the micro

and small-scale business units in India, business networks are not as thriving when compared to those in the corporate setting.

Micro and small businesses, which account for 63 million Indian businesses, have limited access to professional networks. Information asymmetry and lack of connectivity can sometimes be attributed to geography, social status, or gender. Particularly women from low-income communities have weaker business networks. In India, women own and operate just approximately 5% of businesses, 90% of which are micro-enterprises, with the majority functioning in the informal economy (Mastercard Women Small Business Global Insights 2020). Because of the informality of their operations, they are usually shut out of traditional networking possibilities (Business Line, 2021) As a result, many women entrepreneurs have turned to Self Help Groups (SHGs), cooperatives and local business associations at the panchayat⁷ level to create networks and build their business. They are at the core of the village economy and are crucial for bridging the gender gap that prevents many women from becoming economically independent (Kumar & Rakhin 2016).

Startup Incubators are considered an effective tool to help women entrepreneurs set up their ventures as well as provide them with training, mentoring, an affordable office space and other specialised services pertaining to business incubation. They provide management and technical assistance suited to the needs of the business, and incubators can help women break into new non-traditional industries (Sinha, S. 2005). These incubators also provide opportunities for women to build strong networks with other women entrepreneurs. When interacting with other women entrepreneurs, they are more comfortable and open to sharing knowledge and experience with others in similar situations as themselves. Future research might focus on the following research questions:

- Are there differences in network structures between women and men entrepreneurs?
- Do the networking ties among VC firms and other actors influence the investment process?

7.5 Limitations of the study

In the study, a firm with even a single female founder is treated as a women led firm, which implies that the sample of women founded firms will have male entrepreneurs also in the founding team.

⁷ A Panchayat is the name of the local government system in India. It is a council of elders representing a village who are responsible for managing the activities of the particular village.

The privacy and secrecy of the enterprises involved is a fundamental impediment to acquiring enough data to analyse the early stage investing industry. In contrast to public companies, firms seeking private capital such as angel investments are not obliged to report their earnings or revenue. As a result, the comparability of different early-stage initiatives is constrained, and only qualitative studies are possible, which have their own limitations.

Chapter 8: Conclusion

The study explored the differences in venture capital investments between firms founded by women and firms with no women founder based on size of investments, sector, stage, and region. The sample data consisted of 3,513 unique companies in India that received venture financing between 2015-2020. The findings indicate that women entrepreneurs have made some progress in attracting venture capital over the past decade in India, both in terms of then number of deals and the amount of dollars invested. However, across the globe, the average amount of venture capital investments in firms with women founders is much lesser than the firms with no women founders. The venture capital firms' potential investment channels were not examined in the study. According to recent literature, structural constraints such as networking, gender stereotyping, and homophily make it difficult for women to attract venture capital investment; thus, the study incorporates these theories and offers future research agendas in this area.

A business case for investing in women is emerging around the world. It makes economic sense to invest in women and achieve gender equality in the distribution of financial capital for entrepreneurship. Women's entrepreneurship is gaining momentum in India with a slew of targeted public sector initiatives, such as subsidized debt schemes funded by development financial institutions, as well as growing private sector support for unlocking the latent potential of women entrepreneurs. Despite the various initiatives by the Government of India, access to finance remains an acute challenge for women entrepreneurs in the country. To increase women's access to finance, India needs to make a paradigm shift in its approach: gender align financial services, create demand-driven investment products, and construct the evidence base for adopting a gender lens in the investment process.

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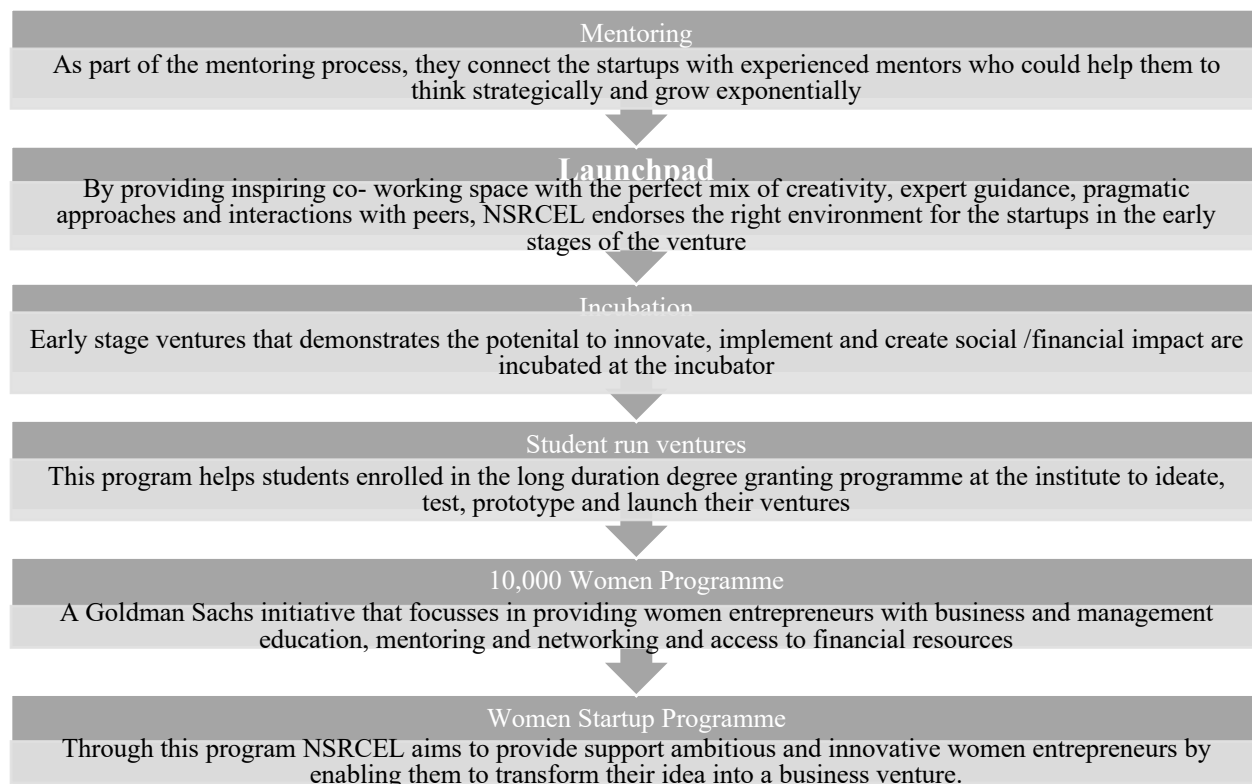
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Appendix

Case study: Nadathur S. Raghavan Centre for Entrepreneurial Learning (NSRCEL), Bengaluru, Karnataka, India

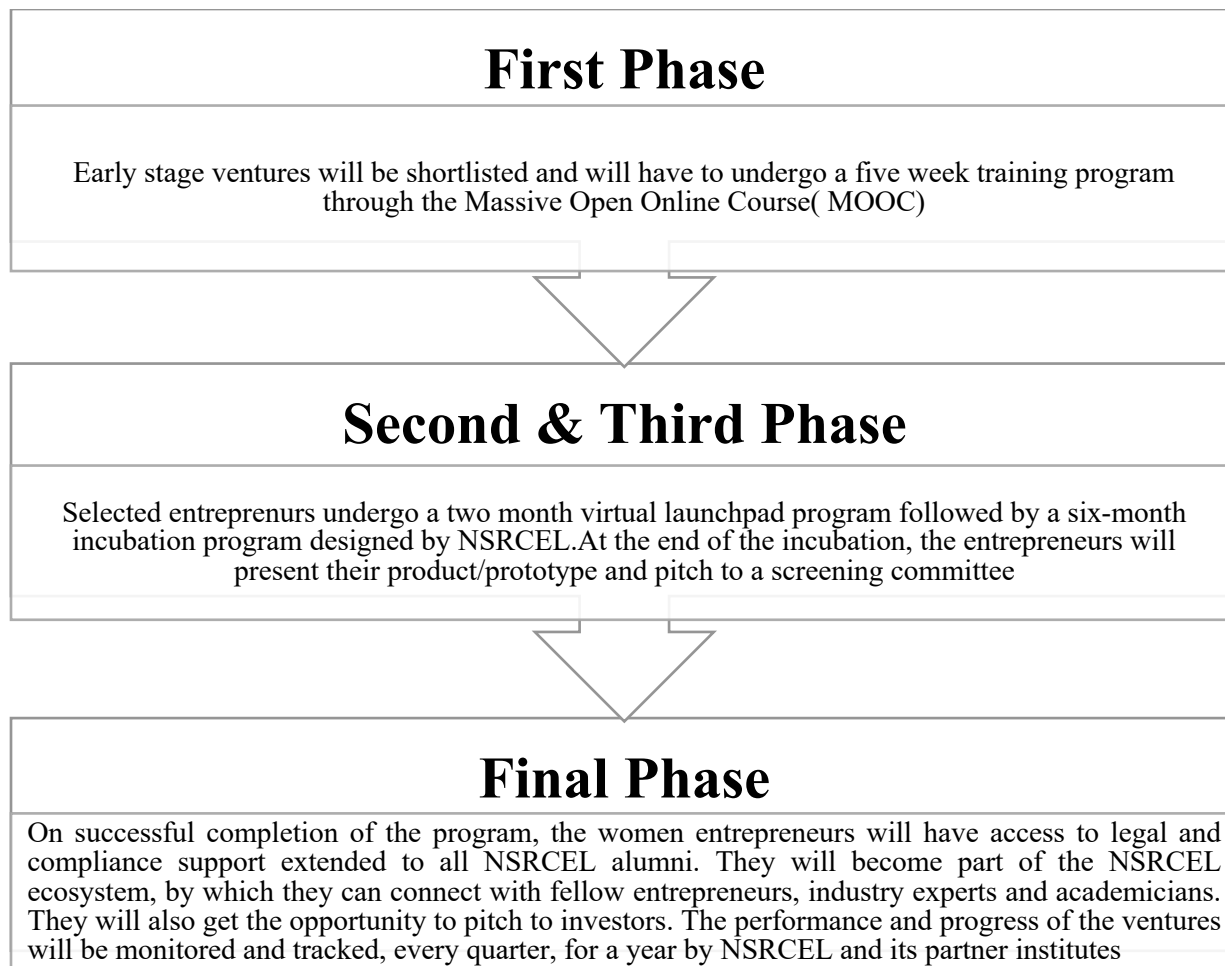
NSRCEL, the startup and innovation hub located at the Indian Institute of Management, Bangalore have engaged with more 100,000 entrepreneurs through its various programmes and have incubated more than 585 ventures since its inception in the year 2000. NSRCEL brings together startups, mentors with both industry and academic experiences, renowned faculty from its parent institution Indian Institute of Management Bangalore and researchers who thrive on continuous interaction of theory and practice. They offer programs that are tailored to social ventures and entrepreneurs with profit ventures, as well as student and women entrepreneurs. The various programmes offered by the incubator are show in the table below⁸:

⁸ <https://www.nsr cel.org/programs/>



Women startup program at NSRCEL

NSRCEL recently launched a women Startup program to provide support to women entrepreneurs to ‘Rebuild India and Reimagine Solutions in a Post-Covid world’. Through this program it aims to help women entrepreneurs to transform their ideas into business venture and provide the needed entrepreneurial and managerial skills. NSRCEL will be partnering with other institutions in each state in the country to create a large pool of women entrepreneurs. For the first time ever, the program will be rendered completely online incorporating multilingual content to reach women entrepreneurs in both urban and rural areas. Women entrepreneurs from the Tier 2 and Tier 3 cities in the country will be able to learn at an affordable cost.



Source: nsrcel.org

Indian Government Initiatives to Create a Conducive Ecosystem for Emerging Businesses and Startups

Timeline	Government Program	Aims and Target
2009	Invest India	Creation of an investment promotion and facilitation agency
2009	IndiaStack and UiD	Digital push for cashless, paperless, consent-based scalable architecture to support Aadhaar – Universal Identification project
2013	SEBI's Alternative Investment Fund Regulations	New norms for angel investors, who provide funding to companies in their initial stages
2014	Make in India	Flagship initiative of the Government of India (GoI) aimed at making the country a “global design and manufacturing” destination
2015	Digital India	Flagship program of the GoI aimed at expanding e-governance to promote inclusive growth and transform India into a “digitally empowered society and knowledge economy”
2015	Skill India initiative	A vocational training and certification program aimed at giving 400 million youth the opportunity for a better livelihood by 2022
2016	Startup India Initiative	Flagship initiative of the GoI to catalyze the startup culture and build an ecosystem for innovation and entrepreneurship
2016	Startup India Online Portal	367,171 registered startups, 26,374 recognized startups, 221 I tax exemptions, and 264 were funded by SIDBI FFS (as of 31 December 2019)
2016	Atal Incubation Centres (AICs) under Atal Innovation Mission (AIM)	31 AICs have been funded with INR 1.4 billion (approximately \$20.39 million) and INR 576.8 million (\$8.12 million) disbursed
2016	SIDBI “Fund of Funds for Startups (FFS)”	INR 100 billion corpus (approximately \$1.4 billion) contributing to the Alternate Investment funds (AIFs) for investing in startups
2016	Bharat Interface for Money (BHIM) and United Payment Interface	Mobile payment app developed by the National Payments Corporation on the United Payments Interface to allow seamless and verified payments
2019	Technology Incubation and Development of Entrepreneurs (TIDE) 2.0	MeitY-sponsored program to promote socially relevant tech entrepreneurship through incubators engaged in supporting ICT startups using emerging technologies (IoT, AI, blockchain, etc.)

Source: Compiled by authors from multiple sources including DPIIT Annual Report 2019–2020, Press Information Bureau (2021), and NITI Aayog (2016)