

Globalization, ICT and Entrepreneurship: A Study of Women Engineers in India

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Abstract: Purpose - The purpose of this paper is to discuss impact of globalization and advent of Information and Communication Technology (ICT) on the growth of entrepreneurship among women engineers in India. Engineering is otherwise considered a male bastion. Design/methodology/approach – This study utilises an extensive review of extant literature on impact of globalization and advent of ICT on women engineers and emerging trends of entrepreneurship among them. The paper also discusses measures taken by other stakeholders as Universities, Government and Associations as NASSCOM and SIDBI to help women engineers to initiate entrepreneurship. The literature, propositions and discussion are intended to provide a bridge between entrepreneurship and women engineers. Findings/ Implication – Suggest a framework of all the stakeholders for development of entrepreneurship among women engineers. Research limitations – The paper is based on review of literature and primary information through case study of ten women engineer entrepreneur and analysis of a small sample of final year women engineering student and engineers who have passed out within three years. The paper lacks rigorous statistical analysis. Originality/value – Women Entrepreneurship has largely discussed for poverty alleviation, enhancing family income, women empowerment etc. but hardly discussed regarding innovation entrepreneurs among empowered women especially in context of India. The paper fills the gap.

Key word- Globalization, Information and Communication Technology (ICT), Entrepreneurship, Women Engineers

JEL Classification: F 66; I 23; J 24; Q 38; P 46

1. Introduction

The capitalist framework of production recognizes the role of entrepreneur¹ and considers it, a very crucial among the four factors of production. It assesses the gap (opportunity), brings other three factor of production i.e. land, labour and capital together and takes the risk. Various theories of entrepreneurship consider different perspectives on entrepreneurial behaviour and activities². For example, economic perspectives consider entrepreneurs to be those who drives technological change or exploit new technological breakthroughs or commercialize commercial breakthrough to create new combinations, products, distribution systems or new market (Schumpeter, 1947; Holmes and Schmitz, 1990; Braunerh et.al. 2010) , McClelland's (1961) work focused on psychological traits that were identified in samples of young men as risk taking, achievement, locus of control while Kirzner (1985) identifies entrepreneurs as those who are able to utilize information in a way that allows them to discover opportunities that others may not. From the sociology perspective, Aldrich (1999) defines the nascent entrepreneur as one who initiates new activities intended to culminate in a viable business start-up (Aldrich, 1999, p. 77). More recently, Shane (2003, p. 4) defines the entrepreneur as an individual who

discovers, evaluates, and exploits opportunities to introduce new goods and services, ways of organizing, markets, processes, and raw materials through organizing efforts that previously did not exist. In these discussions, an implicit assumption is that the individual entrepreneur is “generic” and rather does not differ except when contrasted to non-entrepreneurs. However, the theories have been developed on samples of men. Therefore, there are chances that they have not fully capture women’s entrepreneurial traits and behaviour (Hurley, 1991). As Joanne Martin (2000) asserts, organizational theories are seldom gender neutral. Therefore, the gender neutral theories may not fully explain or capture the full essence of entrepreneurial behaviour² in the background of patriarchal societies. There is growing appreciation that the conditions which support women's ability to start and grow ventures may be different from those that help men, and therefore, there is a need to examine factors that impact women's enterprise development (OECD, 2004; Bosma and Levie, 2010). The same logic may be applicable for factor driven, efficiency driven and innovative driven entrepreneurship for women also. Again, engineering is considered as a male bastion not only in India but in the other part of the globe too. However, women participation has experienced a threefold increase in India during the period of post-globalisation (Singh, Seema 2013). At the same time, the advent of Information and Communication Technology (ICT) has drastically changed the way we work and work is performed. It has provided a virtual platform to interact, negotiate and exchange things without being there physically present. In this background, the paper discusses, the status of entrepreneurship among women engineers under the era of globalisation and ICT. The second and third section of the paper discusses the International and Indian experience of the status of women entrepreneurship respectively. Globalisation, Information Technology and Expansion of Engineering Education in India have been discussed in the fourth section. The fifth section deals with the case studies regarding successful women engineer entrepreneur. It has been supplemented by a quantitative study of fifty final women engineering students and women engineers who have graduated during less than three years, and the next section makes inferences from the fifth section. Various initiatives which have been taken by the Government, Associations, universities and venture capitalists to help and assist women engineer entrepreneur have been discussed in the seventh section. The eighth section provides a framework of Quadruple Helix Programme for Development of Women Engineer Entrepreneurs where all stakeholders as the university through various programmes, association, the government and venture capitalists will provide required assistance in a coordinated way to women engineer for developing entrepreneurship among them. The last section concludes the discussion.

2. Status of Women Entrepreneurship – International Experience

Entrepreneurship is dominated by men. In many societies around the world, there are expectations from the women will be at home to take care of families, and therefore, the burden of child care falls squarely on their

shoulders. Entrepreneurship is in and of itself a male mentality and experience, which means that researchers and society in general are more likely to associate entrepreneurial actions with men (Bruni, Gherardi, & Poggio, 2004). In the broad sense, women are less likely than men to engage in entrepreneurship, but when they do, they are more likely to do so out of necessity. Women are nearly one-third more likely to start businesses out of necessity than men. And this is also a fact that over half of the entrepreneurs in India along with Chile have stated that they have innovative products or services (Kelly et.al. 2015). According to the Female Entrepreneurship Index (FEI), the US stands at the top of that ranking. The U.S. is often cited as a model to emulate; women-owned firms accounted for only 28% of all businesses. In the U.K. in 2004, a meagre 15% or so of enterprises were female-owned (Carter and Marlow, 2006). Exceptions include the study by Bruni (2004), which shows that while the percentage of female-owned firms is relatively high for micro-enterprises in Latin America (although lower than 50%, except in Honduras), it never reaches 20% for larger businesses. According to the figures in the 2014 Global Entrepreneurship Monitor report, the same is true for many other developing countries (Kelley, 2015). The gender diversity in the top management is recognized as a potential driver of firm performance (Oakley, 2000; Krishnan et al., 2005; Smith et al., 2006). However, an emerging body of comparative international entrepreneurship research on female entrepreneurs suggests that many environmental factors must be considered to increase female entrepreneurship (Terjesen, Hessels, and Li, 2014; e.g., Verheul, van Stel, and Thurik, 2006). For example, family-related institutions such as greater provision of childcare services and family leave are associated with higher levels of female entrepreneurship (Elam, 2008; Terjesen and Elam, 2012) as women tend to start ventures at a later age (ages 35-40) than men, and must manage work-family conflicts (Shelton, 2006). Furthermore, educational training can help women to build confidence in their business skills and ability to identify entrepreneurial opportunities (OECD, 2004). Levels of female entrepreneurship are also influenced by differences across countries regarding women's freedom to work and travel due to the traditional family and religious norms (Terjesen and Elam, 2012). Other important institutions which impact female entrepreneurship include equal legal rights, access to education, networks, technology, capital, social norms, values, and expectations. Furthermore, the overall business environment regarding laws, regulations, and business stability will affect businesses' ability to thrive and grow.

3. Status of Women Entrepreneurs – Indian Experience

India is one of the fastest emerging economies, and the importance of entrepreneurship is realized across the gamut. However, Workforce Participation Rate (WPR) for women has declined in recent times despite three decades of relatively rapid GDP growth. The WPR in India have historically been significantly lower than the corresponding male rates and are among the lower rates to be observed even in the developing world. It implies that there is a real tendency at work that has to be understood and explained. The 2015 Gender GEDI Female Entrepreneurship Index ranks India a dismal 70 out of the 77 countries included with a score of 25.3 per cent.

This index measures a country's potential to encourage and fuel the development and growth of female entrepreneurship. India also received the lowest score regarding the economic Labour Force Parity on an institutional level. Women's role in reproduction and care work overpower their role in the economic production. If Push Factor as if they are required to support the family financially, they start the work but by and large, they are confined to small business and tiny cottage industries. Factors which influence for entrepreneurship can be grouped into two i.e. push factors and pull factors. As for sense towards independent decision-making, if an activity is taken up as a challenge etc. are Pull Factor. Out of Push and Pull Factors, Push Factors are seen as more prominent in the case of women entry into the business, or say, entrepreneurship is traced out as an extension of their kitchen activities mainly to 3 Ps viz, pickles, powder, and papad. Women engaged in business activities due to family compulsion, and the responsibility is thrust upon them. At present, almost 10% of the entrepreneurs are women. Their number in the four southern states and Maharashtra account for over 50% of all women-led units in India. With growing awareness about business and spread of education among women over the period, women have started shifting from 3 Ps to 3 modern E's, viz. Engineering, Electronics and Energy. It encourages women to have an independent occupation and stands on their own.

4. Globalisation, Information Technology and Expansion of Engineering Education in India

In the era of Globalization and Information and Communication Technology (ICT), the market has become very competitive. Firms are continuously upgrading their technology to enhance the quality of their product and productivity of resources. Any change in technology requires a different skill set. After globalization, many Transnational and Multinational companies are coming to India to get the advantage of cost effective English speaking engineering manpower (Singh 2005). Besides other, it has led to exponential growth in engineering education. At present, there are almost 3500 engineering institutions with 1.67 million seats. Traditionally participation of women in engineering education was minuscule not only in India but even in the developed countries and has and grown over the years. But though it has reached its plateau in the developed countries as US, UK, Australia and ranging from 15 to 20 %, women in growing numbers are joining the profession in India in the era of globalization. In 1990-91, women participation was a meager 7.6 per cent in Engineering and Technology which rose to almost 28 per cent in 2010-11. Credit may be given to those State Governments and engineering colleges which have reserved seats for women candidates by various criteria (Singh Seema 2005; Singh Seema, 2014, Singh Seema and Fenton' 2015).

5. Case Studies of Successful Women Engineer Entrepreneur

In this section, first of all, ten case studies have been discussed of women engineer entrepreneur³

Case 1: Ms. Sangeeta Wiz

Ms. Sangeeta Wij graduated in civil engineering from famous Delhi College of Engineering. Post-college, she worked in a couple of private firms as a Structural Design Engineer before joining RITES, a Government of India enterprise providing engineering, consultancy, and project management services in 1984 as an Assistant Manager Designs. Meanwhile, she also completed her M.Tech. Part-Time from an IIT. In 1995, she accepted a Project Coordinator's assignment with USAID. However, this role had little to offer her as a civil/ structural engineer, and Wij quit USAID to start her consultancy firm on Structural and Civil Engineering. She is perhaps the first woman structural engineering consultant in India. Initial days of entrepreneurship were tough, looking for projects, executing the designs/drawings on time and also realising the payments from clients, which according to her was the trickiest of the part.

Her proprietorship firm gradually built a good reputation and was able to attract medium-sized government and private sector projects. Nevertheless, intending to increase its employee strength and improve the office infrastructure, Wij got into a partnership in 2007 and acted as the Managing Director of the new venture, which took over her firm. However, they can not manage scale and the new venture made losses for consecutive years and as a result, the partners decided to split. Wij gave up her stake amidst disillusionment but decided to move on in life. The former DCEite is now with Prime SD Engineering Consultants Ltd, as a Managing Director of their new consulting firm, handling turnkey consulting and PMC assignments for prestigious in-house and external projects.

Case 2: Prof. Goldi Gabrani

After 21 years in academics, she joined her husband's entrepreneurial venture viz. Tecpro group in the year 2007, wherein Tecpro group grew ten times from Rs. 300 crores to about Rs. 3000 crores what it is today. The group today has about 2000 employees. Earlier she was a Whole Time Director of the group's flagship company, Tecpro Systems Limited and is currently a Whole Time Director of Hydro Power Corporation Limited. Hydro is focusing on four segments of electrical projects with high growth potential namely Transmission and Distribution lines, Substations, Railway Overhead Electrification and Electrical Balance of Plant (eBoP).

She is working towards a cohesive approach of taking her group to achieve greater heights along with benefitting the society. Her passion for education and learning still continues to dominate her life in every sphere.

She has been actively contributing towards the development of a Training and Research Center through a partnership between Industry and Academia. As part of one of her pioneering efforts, the group has recently tied up with IGNOU and Haryana Government to offer One Year Diploma in Power Transmission and Distribution. She is also contributing in designing an integrated curriculum for national level skill development programmes in the Power sector.

Further, she has incorporated a trust by the name of Divine Asian Education Trust, which is developing a sprawling campus of around 30 acres and diversifying the group into world-class education and research. She has dedicated her past life to quality education and hopes to continue doing that for the rest of her life, through such initiatives.

Case 3: Upasana Taku

She is a graduate from NIT Jalandhar and masters in management science and engineering from Stanford University. She started a career in payments and financial services which spanned a period of over eleven years. She is the Director and CEO at Zaakpay.com and apart from her job, Upasna, co-founded MobiKwik with Bipin Singh in 2009. Mobikwik has recently raised \$25 Mn in its Series B round of funding from Tree Line Asia and others. The company is now planning to raise another \$100 Mn.

Case 4: Suruchi Wagh

A 2007 computer engineering graduate from College of Engineering Pune and Co-founder of Jombay.com. It is a talent measurement and analytics platform which helps companies to measure human behavior to identify required talent to have better human resource. After completing her Master's in Science and Engineering Management in 2008 from University of Southern California, she joined Tata Consultancy Services.

Case 5: Ms. Sangeeta Nagrath

After graduating from college, she worked with Stallion Shox Ltd for a year, which was followed by a two-year stint with the IDM (earlier IBM). After that, she started an entrepreneurial venture along with a part of a couple of mechanical engineering manufacturing companies. She is a Founder Partner at Tekniktrad International since June 1990, a Director at N.V. Comp. Pvt. Ltd. from March 2004 and a Partner at M.V. Engineering Industries since March 2005. Nagrath also developed and sold a few software solutions over the years. In 2005, she became a part of a start-up company 'HR Bridges', a niche Human Resource Consulting firm involved in organized recruitment and other HR services in India. "The birth of my daughter was the turning point in my life when I chose to quit a full-time job and take a break. This only motivated me, to start a few ventures of my own.

Case 6: Ms. Purukalpa Sankar

In 2013 she did B.Tech. in Chemical & Bio-molecular Engineering from Nanyang Technological University. Co-founder of Social Crop, a mission-driven data company. She dreams to power the Indian Army and manage disaster some day with better data.

Case 7: Ms. Aditi Avasthi

She is the Founder and CEO of Embibe, a Mumbai-based ed-tech startup that was backed by Kalaari Capital and LightBox Ventures. The venture combines technology and data sciences and helps students prepare better for difficult competitive exams. Earlier this year, Embibe acquired 100Marks, a Morpheus Gang company started in April 2012 to help students crack the IIT-JEE, one of the most rigorous entrance tests globally.

Case 8: Ms. Neeru Sharma

Neeru Sharma co-founded Infibeam.com with Vishal Mehta, Vijayakumar Subramanian and Sachin Oswal in 2007. Being an engineer with an MBA degree from Carnegie Mellon University, Neeru had worked with Amazon, the US in the Department of corporate development and media retail. She played an important role in \$850 Mn Zappos acquisition before founding Infibeam.

The self-funded startup was initially funded by Vishal Mehta with a sum of INR 10-15 Cr. The firm has executed two acquisitions so far – picsquare.com, a personalised photo printing website in 2008 and Odigma, a digital marketing company for \$5 Mn in 2014.

The startup had filed the draft red herring prospectus (DRHP) with SEBI for a public issue of its equity on June 30th, this year. It became the first e-commerce company in the country to be listed with capital markets regulator Securities and Exchange Board of India (SEBI), giving its approval to the company to raise \$69 Mn.

Case 9: Ms. Surabhi Dewara

After working as an engineer at Freescale semiconductors and as a promoter at Catalog Educational Services, Surabhi, decided to implement the idea of exploring the education sector and providing a better quality of education. A holistic approach towards career counseling was missing in the country, and this is what inspired

her to start Meracareerguide.com in 2009. An undisclosed amount has been invested by Vishal Gondal and Ronnie Screwvala in the venture.

Case 10: Ms. Anu Sridharan

She is the founder of NextDrop, a company which allows Indian residents in the urban areas to track the availability of piped water through SMS. Anu has Bachelors in Civil Engineering and a Masters in Civil Systems Engineering from the University of California, Berkeley. Her Master's research focused on the optimization of piped networked systems in developing economies to her credit. Anu has also been selected to the Forbes "30 Social Entrepreneurs Under 30" list.

These ten case studies is supplemented by a quantitative study of a small sample of fifty women engineers and final year students⁴. No one from the sample has thought of being an entrepreneur. The reasons given by them are as follows. Some of them gave more than one reason also. I have grouped those reasons on the basis of their nature.

6. Inference from the case studies and responses of young engineer/ engineering student given in Table 1 at the Annexure I

Getting pen-sketch of female engineer entrepreneurs is not difficult in the era of internet and 'Make in India' initiative of the Government of India. However, the idea is to find out some common traits of women engineer entrepreneur which may be beneficial for the stake holders of engineering education in enhancing the quality of services they are providing. They are as follows:

- a. It is their intrapreneurship in the wage employment which ultimately led to the entrepreneurial venture.
- b. Senior engineers could not manage the dual responsibility of the corporate sector and home.
- c. The engineering graduates are not ready to start a business activity.
- d. Raising capital is difficult.
- e. The absence of a group.
- f. Absence of guidance/ advice/ mentorship
- g. It is difficult to get venture capital.

According to data compiled by Your Story, startups had raised USD 1.7 billion in first quarter 2015 alone. The number of deals in the second quarter of 2015 has increased by 50 per cent from the previous quarter. However, when we look at businesses with women at the helm — start ups founded and run solely by women, the number

is small, and when we talk about the ones who have received funding, it does not even cross single digits (Saha, 2016). There are various reasons for this which can be pointed out:

- Investors tend to make safe bets and pedigree universities are always helpful. If there are two equivalent companies, with one team having a pedigree, they are more likely to get funded.
- Founders from these universities tend to have good networks, which help in the early stages in allowing these entrepreneurs make deeper inroads.
- Since these entrepreneurs have more exposure, many times, companies coming from pedigree universities are more mature and are likely to succeed (Mehta, 2015). The perception about women entrepreneur is that they may not be serious; their priority may change after marriage (Singh Rajiv, 2016).

In nutshell, as discussed by Kassicieh, S.K. (2010), good quality telecommunication infrastructure has led to growth of so many technology start ups in India too. Opportunities before a women engineer entrepreneur under Globalisation and Information & Communication Technology (ICT) in India is very large. Area needs to be selected as per knack and interest. Then, they need to research the product/ service and assess the market. They need to prepare the plan judiciously. Manage required fund. Once they start, they need to do proper networking and consult with professional.

7. Initiatives Assist Women Engineers to become Opportunity Entrepreneurship⁵

Apart from different schemes initiated by the Government, SIDBI and several Banks for women entrepreneur which is listed at Annexure II, following are various already launched programmes and various initiatives from various stake holders:

7.1 Saha Fund

It is looking to invest in women led companies across different sectors. Added to this, the fund is keen on companies that use technology to scale. Saha Fund has a 'Mentors Circle' that consists of industry stalwarts to help, mentor and guide the women entrepreneurs. Even if they don't invest in the portfolio company but, they create equity to the companies. There are several stereotypes that need to change and that change is possible when there's gender parity in entrepreneurship and management rules (Kashyap, 2015).

7.2 National Entrepreneurship Network (NEN)

It is a flagship initiative of Wadhvani Foundation since 2003. Co-founded by IIT Bombay, IIM Ahmedabad, BITS Pilani, SP Jain Institute of Management & Research and Institute of Bio-informatics and Applied Biotechnology, Bangalore. Since inception, NEN has resulted in 2000 new startups with 12000 = direct and 50000+ indirect jobs and is now tracking 1500+ new companies each year. NEN has built a strong network with 600 colleges 1000+ mentor and 3200 faculty in India (Wadhvani Foundation, 2016).

7.3 NASSCOM INITIATIVE

It has started a, 'Girl in Technology' Programme for women engineers under its 10,000 startups programme for technology start ups. Since its inception NASSCOM has conducted various programme in Bengaluru, Chennai

and Delhi (NASSCOM, 2016.a). NASSCOM and the Karnataka government have partnered to set up a 50,000 square feet Start-up Warehouse Next Gen-cum-Hack-cellerator in Bengaluru, one of the first few in the world. The Start-up Warehouse – which reaffirms Bengaluru's status as the country's Start-up capital – will act as a large integrated platform housing and hosting companies for a six month incubation term. Once fully finished, the facility will have capacity to hold over 100 start-ups (with 1-12 employees each), on a 24x7 basis – (NASSCOM, 2016.b)

7.4 Initiatives taken at University Level

The academic world has progressively shown interest in developing entrepreneurship. Though there are some institutions exclusively to develop entrepreneurship but in rest of the universities also, the seminar, conferences and conclave are organized. Courses on developing entrepreneurial skills are being integrated in the engineering B.Tech. curricula. Recently DTU has announced to give Entrepreneurship break to its students for working on their entrepreneurial ventures. Alumini groups are helping and mentoring college/ university students.

7.5 Association for Women Entrepreneurs

As par Table 2 of Annexure I, there are several association and societies which are exclusively for women entrepreneurs. They have been developed or established by various state Governments and business associations. Some NGOs as Women in Science and Engineering (WISE-India) is also organizing lectures and is mentoring woman engineering college students who wish to pursue entrepreneurship.

7.6 UN Women Entrepreneurship Day

It is observed on November 19th November which has been started by Wendy Diamond. Several programmes are organised to observe and discuss the work of women entrepreneurs. 144 nations overall recognized the first WED in 2014, which included the presentation of the Women's Entrepreneurship Day Pioneer Awards also. The organization behind WED also has an ambassadorship & fellowship program (WED, 2016).

8. Quadruple Helix Programme for Development of Women Engineer Entrepreneurs

All the important stakeholders as Government, University, Business/ Women Associations and Financing Companies/ Venture Capitalists need to come together to work in a coordinated way as a Quadruple Helix fashion to assist Women Engineer Entrepreneurs . As par the case study, all young women engineers entrepreneurs are foreign education many of them have B.Tech. as well as MBA degree. It means the B.Tech, curricula need to revamp itself and incorporate the courses of financial management, skills to become global workforce, knowledge of taxing system, legal system etc.

9. Conclusion and Recommendation

At present, Women Entrepreneur in India is almost 10% of the total and maximum of them are also working at the lower rung of the business cycle. At the same time, we have large reservoir of women engineers who are capable to run innovative entrepreneurships. All the important stakeholders as Government, University, Business/ Women Associations and Financing Companies/ Venture Capitalists are aware of the situation and are already launched many programmes. However, they need to in a a Quadruple Helix fashion to assist Women Engineer Entrepreneurs. As par the case study, all young women engineers entrepreneurs are foreign education many of them have B.Tech. as well as MBA degree. It means the B.Tech, curricula need to revamp itself and incorporate the courses of financial management, skills to become global workforce, knowledge of taxing system, legal system etc.

Notes:

1. The origin of the basic word Entrepreneurship is from a French word Entrepreneurship, where it cradled and originally meant to designate an organizer of certain musical or other entertainments. The Oxford English Dictionary (of 1897) defines the term Entrepreneur in similar way as the director or a manager of a public musical institution, one who gets-up entertainment arranged , especially musical performance. Initially in the early 16th century, it was applied to those who were engaged in military expeditions. In 17th century, it was extended to cover civil engineering activities such as construction and fortification. According to Government of India, "A women enterprise is an enterprise owned and controlled by a woman and having a minimum financial interest of 51 per cent of the capital and giving at least 51 per cent of employment generated in the women". Last ten years Indian economy made it evident that the structure of ownership in the industrial sector, in agriculture, in the trade and commerce sectors has changed. Many women entered the world of business, of trade commerce and they have become successful entrepreneurs in various business activities.
2. The discussion on Psychological and Sociological traits have been largely taken from Bruin et. al. 2006.
3. The case studies have been collected through the Website (Team Inc42 (2015), Linden and face book and personal interview with some of them.
4. This is part of a larger study which is in progress. Here I am discussing some salient points of the study.
5. Global Entrepreneurship Monitor has divided entrepreneurship into three. They are Factor Driven Entrepreneurship, Efficiency Driven Entrepreneurship, and Innovation Driven entrepreneurship. Engineers may work in Innovation-Driven Enterprises (Kelley et.al., 2015)

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Annexure 1

Table1: Reasons for Not Opting for Entrepreneurship

A. Knowledge Aspect	
1.	They are not ready to face the challenge.
2.	After four-five years of working in the organisation, they may think.
3.	Absence of guidance/ advice/ mentorship
4.	They are trying for MBA from US university or preparing for CAT
B. Risk Aspect	
1.	There is a financial risk. They may incur loss
2.	There is no fixed frame work for getting the financial return.
3.	They may not be able to fulfill their other obligation.
4.	They are getting wage employment easily then

	why to think of entrepreneurship.
C. Financial Aspect	
1.	Difficulty in getting capital
D. Social Aspect	
1.	Pressure from Parents/ Self decision to get married.
2.	Delhi is not a safe city
3.	No group and cannot start alone

Source: Compiled by Author

Table 2: Association for Women Entrepreneurs

SN	Name	Web site
1.	The Marketing Organisation of Women Enterprises (MOOWES)	
2.	Federation of Indian Women Entrepreneurs (FIWE)	http://www.fiwe.org/
3.	Consortium of Women Entrepreneurs (CWEI)	http://www.cwei.org/
4.	Association of Women Entrepreneurs of Karnataka (AWAKE)	http://awakeindia.org.in/
5.	Self-Employed Women's Association (SEWA)	http://www.sewa.org/
6.	Women Entrepreneurs Promotion Association (WEPA)	
7.	Bihar Mahila Udyog Sangh Bihar Mahila Udyog Sangh	http://www.biharmahilaudyogsangh.com/
8.	Mahakaushal Association of Woman Entrepreneurs (MAWE)	http://www.maweindia.com/
9.	SAARC Chamber Women Entrepreneurship Council	http://www.scwec.com/index.htm
10.	TiE Stree Shakti (TSS)	http://www.tiestreeshakti.org/
11.	Women Empowerment Corporation	http://www.wecindia.org

Source: Compiled by the Author from the respective Websites

Annexure II

SCHEMES FOR PROMOTION AND DEVELOPMENT OF WOMEN ENTREPRENEURS

In order to promote progressively women enterprises in the MSE sector, various schemes have been formulated by Ministry and Banks to develop women enterprises in India:

1. Trade related entrepreneurship assistance and development scheme for women (TREAD): With the objective of encouraging women in starting their own ventures, government launched a Scheme, namely, (TREAD) Trade Related Entrepreneurship Assistance and Development during the 11th Plan. The scheme envisaged economic empowerment of 297 women through the development of their entrepreneurial skills in non-farm activities. There are three major parts of the scheme; Govt. of India has grant up to 30% of the total project cost to the Non-Government Organizations (NGOs) for promoting entrepreneurship among women. The remaining 70% of the total project cost is financed by the lending agency as loan for undertaking activities as envisaged in the project. Up to Rs.1 lakh per program can be granted by govt. of India to training institutions / NGOs for providing training to the women entrepreneurs.

2. Micro & Small Enterprises Cluster Development Programme (MSE-CDP):

a) Existing Clusters: Cluster is described as a group of enterprises, normally 20 or more producing same/similar products/services. The Cluster Development Programme being implemented envisages diagnostic study of identified clusters of traditional skill-based MSEs to identify suitable technologies and their providers and to facilitate adoption of available technology meeting the specific needs of the end users. The Cluster Development goals at improved competitiveness, technology improvement, adoption of best manufacturing practices, marketing of products, employment generation etc. The scheme provides support for capacity building, common facilities, marketing etc. the delivery, absorption and diffusion of the identified technology from its producers to the recipient user/cluster of small enterprises.

b) Physical infrastructure: This Ministry implemented the IID Scheme to provide developed sites with infrastructural facilities like exhibition/display centers, telecommunications, drainage and pollution control facilities power distribution network, roads, water, raw materials, common service facilities storage and marketing outlets, and technological back-up services, etc. This scheme has been subsumed in the MS-ME-Cluster Development Programme. All the features of IID Scheme have been retained. To create physical infrastructure for women enterprises central grant of 40% of the project cost subject to a maximum of Rs.2 crore is available. The Ministry of MSME is trying to enhance the quantum of grant to 80% in a project of Rs.10 crore.

3. Credit guarantee fund scheme: In May, 2000 The Government had introduced the Credit Guarantee Fund Scheme for Small Industries with the objective of providing credit to SSI units, particularly small units, for loans up to Rs. 25 lakh with no collateral/ third party guarantees. The Scheme is being operated by the Credit Guarantee Fund Trust for Small Industries (CGTSI) set up jointly by the Government of India and SIDBI. In the case of women enterprises, the guarantee cover is up to

80% of the credit subject to maximum guarantee limit of Rs. 20 lakh. The member lending institutions (MLI) availing of guarantee from the Trust have to pay a one-time guarantee fee of 1.5% of the credit facility (comprising term loan and / or working capital) allowed by the lending institution to the borrower and annual service fee of 0.75% per annum on the amount of credit facility extended by the MLI, which is covered under the scheme. 298 4. Help for Entrepreneurial and Managerial Development: MSME DIs regularly conducts EDPs/MDPs for existing and potential entrepreneurs and charge fee for such courses. To encourage more entrepreneurs from among the SC/ST, women and physically challenged groups, it is proposed that such beneficiaries will not be charged any fees but, instead paid a stipend of Rs.500/- per capita per month. 20% of courses conducted by these Institutions shall be exclusively for women

5. Scheme for Women Entrepreneurs to Encourage Small & Micro Manufacturing Units DC (MSME) has formulated a scheme for women entrepreneurs to support Small & Micro manufacturing units owned by women in their efforts at developing overseas markets, to enhance participation of representatives of small/micro manufacturing enterprises under SIDO stall at International Trade Fairs/Exhibitions, to enhance export from such units. Under this scheme participation of women entrepreneurs in 25 international exhibitions is envisaged during the 11th Plan. For the year 2007-08 a good number of outstanding women entrepreneur associations have been requested to sponsor their members for participation in 5 international exhibitions scheduled during the months of Jan.-March, 2008, With a view to give confidence to women entrepreneurs for participating in the International Exhibitions.

6. Dena Bank to support India's women entrepreneur. Dena Bank will help Government of India's initiative to promote women entrepreneurs for self-employment ventures in any kind of non-farm activity.