



# **iJRASET**

International Journal For Research in  
Applied Science and Engineering Technology



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# **INTERNATIONAL JOURNAL FOR RESEARCH**

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

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**Volume: 6      Issue: II      Month of publication: February 2018**

**DOI: <http://doi.org/10.22214/ijraset.2018.2024>**

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# Woman Empowerment in Information and Communication Technology (I.C.T) and Digital Growth in India

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**Abstract:** Digital growth basically refers to the digital economy that is an economy that is based on digital computing technologies. The digital economy is also sometimes called the Internet Economy, the New Economy, or Web Economy. Increasingly, the "digital economy" is intertwined with the traditional economy making a clear delineation harder.

Empowerment, in its literal context, means to give power or warrant power. Many of us don't know that women account for around two-thirds of the world's working hours and earn only 10% of the world's income. Also don't know that women produce half of the world's food and own only 1% of its land. And of the 900 million adults worldwide who cannot read or write, about two thirds are women! Simply saying that women and girls are the most potentially capable untapped resource on the face of the earth. And this is why women empowerment is needed.

When we use the term "women empowerment", it means to create means and provide channels through which women can practice equal rights as men. Since decades women rights have been violated in many forms. This is something which is global, in one form or the other women rights have been violated in almost all nations. From the right to learning to the right to education, from gender equality to sustainable development or from economical growth to technological progress, women should have an equal right or power in everything. So, in a single sentence, the definition of woman empowerment can be given as, "Women empowerment means marginalizing power in women and girls so that they can play a significant role in the society!"

We have focused on the scope of Woman Empowerment in India through the growth and progress of Information and Communication Technology (I.C.T) in this paper. We have also highlighted the fact and consequences of digital growth, economy and impact of woman empowerment of India. The paper also discusses the necessity of woman empowerment in India, its chances, challenges and future scopes.

**Keywords:** Women Empowerment, Information and Communication Technology (I.C.T), Digital Growth, Digital Economy, Women Entrepreneurship.

## I. INTRODUCTION

The term 'Empowerment' refers autonomy, determination and self respect that enable the responsibilities to provide support to the society, people and to overcome their sense of powerlessness and lack of influence, and to recognize and use their resources.

Women Empowerment refers to increasing and improving the social, economic, political and legal strength of the women, to ensure equal-right to women. Women empowerment helps women to control and benefit from resources, assets, income and their own time, as well as the ability to manage risk and improve their economic status and wellbeing. Many of the barriers to women's empowerment and equity lie ingrained in cultural norms. Many women feel these pressures, while others have become accustomed to being treated inferior to men. Empowering women to participate fully in economic life across all sectors is essential to build stronger economies, achieve internationally agreed goals for development and sustainability, and improve the quality of life for women, men, families and communities.

Women Empowerment also refers to the creation of an environment for women where they can make decisions of their own for their personal benefits as well as for the society. It also refers to increasing and improving the social, economic, political and legal strength of the women, to ensure equal-right to women, and to make them confident enough to claim their rights, such as:

- 1) freely live their life with a sense of self-worth, respect and dignity,
- 2) have complete control of their life, both within and outside of their home and workplace,
- 3) to make their own choices and decisions,

- 4) have equal rights to participate in social, religious and public activities,
- 5) have equal social status in the society,
- 6) have equal rights for social and economic justice,
- 7) determine financial and economic choices,
- 8) get equal opportunity for education,
- 9) get equal employment opportunity without any gender bias,
- 10) get safe and comfortable working environment.

Women have the rights to get their voices heard. Information and Communication Technology (ICT) stresses the role of unified communications and the integration of telecommunications, computers as well as necessary enterprise software, middleware, storage, and audio-visual systems, which enable users to access, store, transmit, and manipulate information. ICT is one of the best ways to make the woman empowerment and accelerate the overall development of the women. Digitization, is the process of converting information into a digital (i.e. computer-readable) format, in which the information is organized into bits. The result is the representation of an object, image, sound, document or signal (usually an analog signal) by generating a series of numbers that describe a discrete set of its points or samples. The result is called digital representation or, more specifically, a digital image, for the object, and digital form, for the signal.

## II. WHY WOMEN EMPOWERMENT IS NEEDED?

Barack Obama, 44<sup>th</sup> US President said, “When women succeed, nations are more safe, secure and prosperous”. Kofi Annan, the 7<sup>th</sup> UN Secretary General said, “There is no tool for development more effective than the empowerment of women”. Dr Amartya Sen, Nobel Prize Laureate in Economics said, “Empowering women is key to building a future we want”.

Astonishingly, the exact opposite is true on the ground. Rather than uplifting and empowering girls and women as the most powerful force for transformation and progress, horrific violence is perpetrated against them in every minute, every hour, and every day. Almost every day the violence over women, abuse, assault and rape cases have become the news headlines. Every minute, every hour and every day millions of women get neglected, tortured and raped. In fact, million girl babies have been killed, aborted, and neglected to die, simply because they were girls.

So, woman empowerment is highly important and necessary for the following reasons. They are,

### A. *Under-employed and unemployed*

Women population constitutes around 50% of the world population. A large number of women around the world are unemployed. The world economy suffers a lot because of the unequal opportunity for women at workplaces.

### B. *Equally competent and intelligent*

Women are equally competent. Nowadays, women are even ahead of men in many socio-economic activities.

### C. *Talented*

Women are as talented as men. Previously, women were not allowed higher education like men and hence their talents were wasted. But nowadays, they are also allowed to go for higher studies and it encourages women to show their talents which will not only benefit her individually but to the whole world at large.

### D. *Overall development of society*

The main advantage of Women Empowerment is that there will be an overall development of the society. The money that women earn does not only help them and or their family, but it also help develop the society.

### E. *Economic Benefits*

Women Empowerment also leads to more economic benefits not to the individuals but to the society as well. Unlike earlier days when they stayed at home only and do only kitchen stuffs, nowadays, they roam outside and also earn money like the male members of the society. Women empowerment helps women to stand on their own legs, become independent and also to earn for their family which grows country's economy.

### F. *Reduction in Domestic Violence*

Women Empowerment leads to decrease in domestic violence. Uneducated women are at higher risk for domestic violence than an educated woman.

#### *G. Reduction in Corruption*

Women Empowerment is also advantageous in case of corruption. Women empowerment helps women to get educated and know their rights and duties and hence can stop corruption.

#### *H. Reduce Poverty*

Women Empowerment also reduces poverty. Sometimes, the money earned by the male member of the family is not sufficient to meet the demands of the family. The added earnings of women helps the family to come out of poverty trap.

#### *I. National Development*

Women are increasingly participating in the national development process. They are making the nation proud by their outstanding performances almost every spheres including medical science, social service, engineering, etc.

#### *J. Irreplaceable in Some Sectors*

Women are considered irreplaceable for certain jobs.

### **III. IMPORTANCE OF WOMEN EMPOWERMENT IN THE SOCIETY**

Women who were the most dormant segment of India population have now become active participants in all walks of life. Till now, they were only unit of the family organization. Now, women are becoming not only a significant unit of the society but also influencing the course of social change in society. Women are an important element of our Society. The modern society has started recognizing the individual identity of women. She is believed to have her aspiration, abilities and qualities as a man does have and it is also agreed that she should have the opportunities to develop her faculties and to express them according to her own choice.

Women can help the society in various ways. They can engage in social activities and work for the betterment of the society. Young educated girls can get engaged in a profession of her choice. We need more doctors, engineers, software developers, and social workers. The world cannot grow at good pace unless women come forward and take initiative for the development works. They can contribute enormously in the field of health care. Women education will also improve the level of sanitation and hygiene. As a mother, her role in the development of the emotional psychological aspect of the new born child has been also very significant. She was not only the creator and maintainer of her child but an educator and disciplinarian as well. The woman is now an important instrument of social change. The extent of woman's participation in the corporate life is thus the measure of social change in India. Women's interest and participation in social life is increasing. This development is also the result of women's education and secularization of social values. Women are participating in social organizations and are developing taste for leading a life of social involvement. Their interest in social and cultural activities is increasing. They have growing interest in travel and literary activities. There is need for complete abolition of social practices such as dowry, sati, female infanticide, permanent widowhood, child marriage and many more. There are many people and organizations working including the Government that are working for improving the social and economic position of women. In modern times, many welfare organizations for the women have sprung up. The women are becoming active members of these organizations and contributing their mite to the women's welfare. Some of the welfare organizations have been formed at the national and state level and most of them are at local level.

### **IV. HOW TO EMPOWER WOMEN?**

To "empower women" means to authorize power or increase the overall position, status and condition of women in every spheres of life. Empowerment of Women would result in better and more developed society. When women contribute equally along with men for the benefit of society, the world would surely become a better place to live. Today more and more females are studying in schools and colleges and also go abroad for higher studies. Women are increasing commanding better position in the society.

There are several ways to empower women; some of them are discussed below:

#### *1) Create Safe Workplaces*

Women can be empowered through the creation of safe working environment. The workplaces should be safe for the female members of the society. People will like to send their daughters and wives to work if they are assured of safe environment at workplaces.

## 2) *Women Education*

By educating women, economy of the country increases. It has been seen from the last few decades that involvement of educated women in various activities helps the country to move towards economic and social development.

- 1) Female education also contributes towards health and well-being of the family.
- 2) By getting education, women also contribute to the national income of the country.
- 3) They can afford to offer quality nutrition to their children.
- 4) Educated women are considered active in politics as well.
- 5) They know their rights and are able to defend themselves better.

## 3) *Raise voice against Gender Inequality*

Women can be empowered by decreasing the gender inequalities or disparities in all sectors of the society especially in education sectors.

## 4) *Job Skills (Vocational Training)*

Proper training should be provided to women's for better results.

## 5) *Create more Part-time Job Opportunities*

There should be greater number of part-time job opportunities. In India, mostly women are housewives so they do not get any opportunity for full-time work. Hence, more part-time and flexible jobs should be created so that more and more women get engaged into commercial activities.

## V. **I.C.T (INFORMATION AND COMMUNICATION TECHNOLOGY) AND WOMEN EMPOWERMENT IN INDIA**

In a patriarchal world, women are being suppressed for so long. But we forget for united nation gender equality and women empowerment is needed. Women and girls are the most potentially capable untapped resource on the face of the earth. India is a complex country with her various types of customs, traditions and practices. In India, we worship female goddesses; we also give great importance to our mothers, daughters, sisters, wives but at the same time women are treated badly. In our country there is great disparity in the matter of economic resourcefulness between men and women. Women are treated as dependent role irrespective of their class of society to which they belong. Now-a-days Indian Constitution makes affirmative action in favor of Woman by several articles and there are many International and National agencies fight for women empowerment.

There are plentiful possibilities for ICT's to improve women's economic activities in the field of trade, governance, crafts, educations, health, and employment in formal as well as informal sector. It is observed in national policy on education, 1986, that the modern communication technologies have the potential to bypass various stages and sequences in the process of development, encountered in earlier decades. For this purpose the ministry of human resource development tries to utilize technology in primary education sectors by giving training to the primary teachers through audio and video so that they can teach their students by communication technology. It is seen that the number of women are less than men in Information Communication Technologies and they have restricted access to technologies. However there are enough experiences to show that when women are trained, their role in technology is commendable.

Hence ICT project try to implement gender equality and women empowerment by comprising the following five main components:

- 1) Creating an environment which supports and inspires strategies to indorse women's equal access to and opportunity to benefit from ICT projects, as well as creating a regulation and policy environment which backings women's use of ICT's.
- 2) Developing content which speaks to women's concern and replicates their local knowledge, which is of value for their daily lives, business enterprises and family responsibilities.
- 3) Backing augmented representation of women and girls in scientific and technical education, and using ICT's to promote their amplified participation in education at all levels.
- 4) Promoting amplified employment in IT sector for women.
- 5) Executing e-governance strategies which are accessible to women.

### A. *Digital Growth and Evolution in India*

With nearly 46 Million internet users and a growth rate of 7-8 per cent, India represents a digital economy, which has biggest market potential for global players. This digital revolution, also known as 'the Internet economy', is expected to generate new market growth opportunities, jobs and become the biggest business opportunity for businesses in the next 30 to 40 years.

#### Digital Economy in India

India has shown promise and proved leadership in the digital technologies over the past decade. It is time India's new leadership supports and fuels the digital economy to turn it into a major growth enabler. Prime Minister Narendra Modi's "Digital India" programme's mention among the top priorities for the government, is a welcome change and is a resounding nod to the digital opportunities.

#### Changing Public Policy to ensure Successful Digital Evolution

The launch of Digital India by the Prime Minister Narendra Modi, with the objective of connecting rural areas with high-speed Internet networks and improving digital literacy, digital revolution has already started happening in India. This vision of the digital India programme presented by the central government has resulted in inclusive growth in areas of electronic services, products, manufacturing, and job opportunities.

Key areas that have been positively impacted ensuring growth of the digital economy include:

- 1) Digital Infrastructure as a utility to every citizen
- 2) Governance and services on demand
- 3) Digital empowerment of citizens.
- 4) Also, while demonetization might have not made much impact, it has created a new conversation around digital payments - with not just fin-tech start-ups and the banking sector, but also the government itself taking steps to onboard the unbanked.

Platforms like UPI-integration and products like the BHIM app is a commendable step in this direction. As each sector - be it education, healthcare, infrastructure and more - benefits from being associated with a rising digital economy, let's hope that the overall economy of India will benefit from the digital revolution.

India is also leading the world in payment system evolution. Enablers like Jan Dhan, Aadhaar, mobile penetration, and more recently, demonetization have created favourable conditions for large scale adoption of digital payment systems in India. With mass adoption of digital and biometric systems by 2020, the country is expected to leapfrog plastic payment systems and have the most advanced financial systems in the world.

- a) *Key Trends - Digital Progression in India* : The next leg of digital progression in countries like India will be driven by frugal innovation, open source software, local language computing, and scalable enterprise solutions for "smart" cities or villages. These are areas in which India has great potential and needs to strengthen infrastructure and train resources. Automation, big data, IoT and artificial intelligence enabled by the application of digital technologies could transform the Indian economy and improve productivity.
- b) *Challenges to digital evolution - Connectivity/Infrastructure*: The biggest challenge faced by digital evolution in India is the slow/delayed infrastructure development. Spectrum availability in Indian metros is about a tenth of the same in cities in developed countries. This might be prove to be a major roadblock in providing high speed data services. This digital divide also needs to be addressed to improve reach in rural areas. PPP models should be explored to enable sustainable development of digital infrastructure. Also government should incentivize startups for providing last mile connectivity.
- c) *IT Literacy*: Improving IT literacy is a huge task which is extremely necessary for the digital services to catch up among the masses.
- d) *Security*: Security of data, especially financial data, is a big concern. Digital medium is still relatively unsafe with data vulnerability and phishing attacks are a big issue in commercial and financial transactions and this need to be addressed through advanced fin-tech technologies. Technology companies should adopt public-private partnership while trying to foster innovation in a digital economy like India. Also, they must encourage better integration of automation, data, and new technologies into the legacy economy. Steps must be taken to introduce skills required to thrive in a digital economy at early levels, specifically at schools. India today aspires to be the leader on every global technology platform - strengthened by its vibrant private sector, expanding technology capabilities, entrepreneurial potential, and rich diplomatic history. To build on to its legendary past and to maintain its leadership in IT, it's important that digital technologies are used to improve public services, develop efficient trade mechanisms and deliver financial inclusion through advanced fin-tech technologies. All this can be achieved by leveraging the strong IT competencies of Indian technology companies and highly skilled Indian personnel

having extensive experience with global corporations. The intent should be to deliver advanced digital solutions for the most intriguing problems of the country that make a difference to the economy.

#### *B. Women Empowerment through ICT in India*

A nation that wants to progress cannot afford to disregard capacity building and empowerment of women. Gender sensitivity is the precondition that must prevail and be strengthened at all levels. Women's development is now inextricably associated with technology. Thus, technological intervention undertakes a greater and more vital role, especially when viewed globally. Its potential to sweep across political, geographical, economic and social barricades are just the leverage that women need to build for themselves a new distinctiveness and a more honourable place in society. As has been experienced the world over, women have restricted access to technologies in India. However, there are now enough experiences to show that when women are trained, they show noteworthy understanding and control in using technologies commendably. In India, women comprise a large portion of the rural population and play a significant role in the rural sector. Their involvement in a number of productive actions is commonly overlooked. The experience of women in the field of animal husbandry—principally dairying—is a case in point. Women have stated their helplessness in looking after cows, diagnosing several diseases and providing instantaneous care. The reasons cited were their unawareness of current veterinarian care, on the one hand, and the lapse of outmoded methods of care on the other. A study of the situation in different parts of the country resulted in the proliferation of a complete range of manuals for animal husbandry workers. But technical information was offered in such difficult terms that it mystified even technical workers. It is from the United Nations Fund for Women's Development (UNIFEM), an expert team of veterinarians worked on simplifying the manuals and drawing up pictorial charts. The manuals and charts listed the do's and don'ts for practitioners in the field. Large groups of women in the dairy industry greeted this information as it empowered them with appropriate knowledge, bypassing the otherwise precondition need for schooling and literacy. —Barriers to engendering knowledge networking processes with the inception of ICT and convergence technologies, it is possible to bring up a significant fraction of women communities in a more symbiotic digital network which focuses on localized information and customized solutions, and works on the theme of Global Technologies for Local Use. Women, however, are still very much in a minority among the beneficiaries of knowledge networking. Women still face huge imbalances in the ownership, control and regulation of these new information technologies, similar to those faced in other areas. (New York Times, 2000).

#### *C. Role of ICT in Women Empowerment in India*

Every second recruit entering the \$60 billion Indian IT industry is a woman. Currently, Infosys employs the largest percentage of women at 33.4%, followed by TCS 30% and Wipro 29%. The major players in IT industry are now offering an environment that will retain the talented women workforce. To develop women friendly work environment leading companies are now offering benefits like lactation centres, extra maternity leave, work from home policies, crèches, and option to relocate to city of their choice in case of transfer of the husband. IBM has also launched a diversity drive in the campuses specially to attract women in their workforce. In IBM the percentage of women has climbed up to 26. IT and ITES provide unique ecosystem for equal participation in labour force. This trend should be strengthened by increasing the women ratio in higher education and vocational education.

#### *D. Role of Private Sectors in ICT and Women Empowerment in India*

Project Shakti launched by Hindustan Unilever promotes internet penetration among rural women. This project now provides services to 134000 villages, across 14 states and has developed 46000 women entrepreneurs. The Internet awareness are increased by Project Shiksha of Microsoft and Internet Bus of Google. e-choupal initiative of ITC has reached 41,000 villages covering 5 million farmers through 6600 kiosks.

- 1) NASSCOM : National Association of Software and Service Companies (NASSCOM) provide mentoring and empowering women managers across junior, middle and senior level from the IT Industry all the way through various activities concern to training, workshop and all others. India Shop, an e-commerce website in Tamil Nadu, has been designed to sell rural women's cooperatives and NGO's. Swayam Krishi Sangam (SKS) is using ICT's such as smart cards and hand held devices to improve microfinance projects to empower poor women.
- 2) NABANNA : Networking Rural Women and Knowledge, a UNESCO sponsored project in NABANNA, India was launched to empower women through use of intranet portals, databases, and web based applications. Through this network women share local original information and information obtained at group meetings and newsletter. Women have more respect in their local community. Younger women were more confident to move toward job market. Women became more creative after learning

programs like paintbrush. Women developed a sense of unity among them and bringing forth leadership qualities. Employment opportunities in the ICT sector : Women create friendly environment for women employment.

#### *E. ICT Progress in India*

India has made an ICT progress in the following sectors -

- 1) *IT Sectors*: The robustness of empowerment takes part in the IT sectors. We have already found that Infosys employs the largest percentage of women at 33.4%, followed by TCS 30% and Wipro 29%.
- 2) *Software Outsource* : India is one of the leading countries to outsource software product to other countries.
- 3) *Smart Technology* : India is one of the most enriched countries in technology. ICT helps in that technological growth.
- 4) *e-Transactions* : Focuses on cashless online transactions. More flexible in online marketing activities.
- 5) *Smarter Learning* : Fully digitally equipped classrooms along with the smarter study tools.
- 6) *Others* : ICT makes a strong impact on the other fields like Agriculture, Social and Economical Lifestyle, Human Resources etc.

#### *F. ICT and Empowerment in Indian Schools/Colleges :*

The Information and Communication Technology has become a very important part in most of the schools, colleges and other educational institutes in India. The Information and Communication Technology (ICT) in Schools was launched in December, 2004 and revised in 2010 to provide opportunities to secondary stage students to mainly build their capacity on ICT skills and make them learn through computer aided learning process.

##### *1) For Teachers*

- a) Using the ICT gadgets teachers can easily represent their lecture.
- b) More interesting and fruitful teaching technologies.
- c) Use of Audio-Visual aids, Graphical representations of lessons, which helps the students to understand the topic properly and clearly.

##### *2) For Students*

- a) Smart virtual classrooms with smart technologies.
- b) Voice communication aids to gain confidence and social credibility.
- c) Helps them to properly use the Internet .
- d) Improve independent access for students to education and learning.

## **VI. THREATS AND CHALLENGES**

The Women employees have to face challenges of long work hours, constant travelling and juggling different time zones of international clients, Social issues on account of working during night. Due to this the industry is losing women employees at the middle and senior management level. Women employees count less than 4% in top management of Infosys. In a study conducted to assess the status of women in technical education and employment in Karnataka state by Sequeira A.H. (2005) self employment among degree and diploma holders was as low as 2% of the total number of pass outs. The great challenge in India is the IT technology and internet connectivity in the distant villages. To capitalize on the opportunities for women empowerment provided by Information Technology it is important to increase internet connectivity in remote villages.

There are a few difficulties for the empowerment of women in India. They are as follows,

#### *A. Education*

While the nation has developed from a far cry since freedom where instruction is concerned. The hole amongst women and men is extreme. While 82.14% of grown-up men are instructed, as it were 65.46% of grown-up women are known not proficient in India. The sex inclination is in advanced education, particular expert trainings which hit women hard in business and accomplishing top authority in any field.

#### *B. Poverty*

Destitution is viewed as the best risk to peace on the planet, and annihilation of neediness ought to be a national objective as critical as the annihilation of lack of education. Because of this, women are misused as household makes a difference.



*C. Wellbeing and Safety*

The wellbeing and security worries of women are foremost for the prosperity of a nation and is an imperative variable in gagging the women of empowerment in a nation. However there are disturbing concerns where maternal social insurance is concerned.

*D. Proficient Inequality*

This imbalance is rehearsed in occupation sand advancements. women face innumerable debilitations in male altered and ruled environs in Government Offices and Private ventures.

*E. Profound Quality and Inequality*

Due to sexual orientation inclination in wellbeing and sustenance there is bizarrely high ethical quality rate in women diminishing their populace encouraged particularly in Asia, Africa and china.

*F. Family Inequality*

Household relations show sexual orientation inclination in imperceptibly little however huge conduct the whole way across the globe, all the more along these lines, in India e.g. sharing weight of housework, childcare and humble works by alleged division of work.

The other challenges are

- 1) Less support for women working in informal sector.
- 2) Less awareness of ICT for women.
- 3) Lack of e-commerce infrastructure in developing countries.
- 4) Proper communicative knowledge of English language.
- 5) Male dominated set up of Indian society.
- 6) Low Internet penetration among women: Almost 7% non-working women & 8% working women of India uses Internet, which is very low as compare to other advanced & developing economies.
- 7) Conservative mindset for working women. - Balancing career and family

## VII. STRENGTH

Abilities to learn quickly, intelligence, their persuasiveness, open style of problem solving, willingness to take risk and challenges, motivating capacity, knowing how to win and lose ambivalently are the qualities that gild Indian women personality.

## VIII. OPPORTUNITIES

NASSCOM estimates that the male-female ratio in IT industry has improved from 72:24 in 2005 to 72:32 now. IT reduces the impact of barriers of time and distance in organizing and managing the service delivery of businesses. A large part of jobs outsourced are going to women. The freedom to work from anywhere and anytime can become a catalyst for financial independence and empowerment of women by enhancing their extra income. A women entrepreneurship cell should be set up to handle the various problems of women entrepreneurs in all states at the college level.

*A. Promoting Women Entrepreneurship in IT (Information Technology)*

With just six employees at beginning Sharda Ramani's Computer International as now a new avatar of outsourced produced development company of 150 employees. Extensio software of Sangeeta Patni with just 10 employees builds software even for MNC's like SAP, IBM & ACC among others. A start-up by Rakhee Nagpal Dynamic Vertical Solutions (DVS), an ERP solution provider for retail and hospitality industry in 2006, having important clients as D'damas, Lilliput, Devyani Group among others. Anu Lall, CEO of SNARTAK IT Solutions set up the business with a mere Rs.11000. Major corporate like Siemens, Satyam, Ranbaxy, Apollo Tires and others are their clients now. These women are the shining beacon of women entrepreneurship for their contemporaries & posterity.

Apart from entrepreneurship other opportunities are:

- 1) Choice of flexi timing & work place.
- 2) Amiable working condition in IT companies.
- 3) Better facilities for women to distance learning.

- 4) Knowledge of various things through e-governance initiatives of government.
- 5) Better market access for micro enterprises through e-commerce.
- 6) Regulatory support by government to help microfinance and mobile banking for women empowerment.

### IX. SUGGESTIONS

Here are some general suggestions and proposal that will help the chances of woman empowerment through ICT.

- A. Women should be empowered by augmenting their skills, understanding and access to information technology.
- B. Women need to be involved in decision-making concerning the development of new technologies in order to partake totally in their growth and impact.
- C. To offer accessibility to women in order to derive the paybacks from applications like tele-education etc.
- D. It is needed that Multifunctional Converged Application Community Centres (MCACs) should facilitate the Telecommunication services, computing services like E-mail and Internet access, information about local data base and generating awareness about governments' programmes.
- E. NGOs and the government should come together to make paucity alleviation programmes popular through women centric initiatives.
- F. Community networking may offer many profits to the world. This is predominantly true of rural ICT projects that seek to bring emerging technologies like low cost computing and Internet access to rural areas, social institutions and governments.
- G. There is no common design for all rural ICT networks as communities vary in social, economic, and political outfit, and therefore information needs, and the design of community networking system, will vary. For fruitful community networking, the design and implementation of projects should be driven by the explicit needs of communities.
- H. Need of incessant monitoring of women's adoption of the ICT interventions.

### X. CONCLUSION

Information need for women and their ICT use differ widely. As there is no ideal ICT that fits all situations, one should implement ICT's for women empowerment by focusing on ICT use pattern and varied information needs of rural women. As rural women are unaware of new technologies than their urban counterparts, government is providing special packages for them, who are involved in home based or small scale activities like hand craft, handloom etc. Community Information Centre (CIC) establishment at all block levels are in processing by Indian Government for economically backward and geographically difficult terrains. CIC are supposed to provide multiple information regarding to health, education, social welfare, small-scale industries etc. And it helps rural women to boost their economic and social status.

ICT sectors play a catalyst role in enhancement of women entrepreneurship. ICT creates new types of work in favour of women by providing better work ambience, family schedule and accommodation. Women have also been able to take large proportion of jobs in ICT enabled service because of the shortage of skills necessary for work in this sectors. New ICT jobs in India are in service information processing, banking, insurance, printing, publishing, data processing etc. But due to the lack of mobility, long erratic hours very few women choose IT sectors.

Woman in the Workforce	
Total Woman in Workforce	31%
Total Woman in IT Workforce (Software Sector)	19%
Woman Internet User in India	23%
Others	27%

Table 1 : Woman in the Workforce

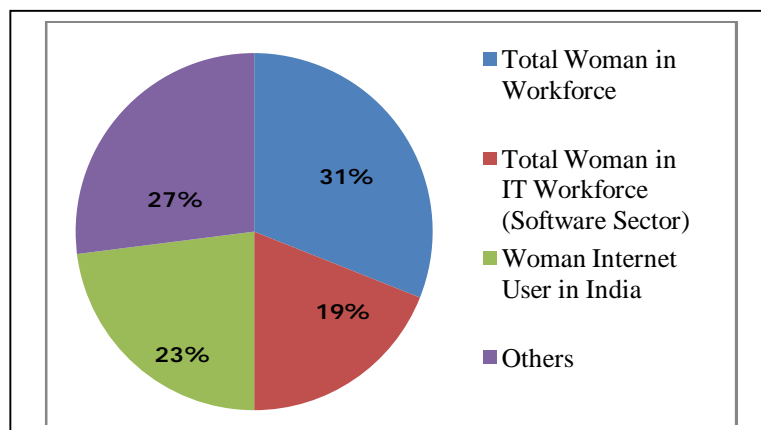


Fig 1 : Graphical Representation of the Women in the Workforce

Gender equality advocates in national and civil society needs to educate themselves about ICT policy issues and become more actively involved in policy process at national level including by strengthening their capacity to monitor national actions in ICT-related areas. National machineries for the advancement of women should increase the use of ICT in their work for the advancement of women and gender equality.

Here is a brief summarized report of the progress of ICT in India.

Key Points	Progress
IT Development	Contribution in GDP growth 1.2% (1998) to 7.5% (2012). Export revenue growth : 13%
Tele-communications	Telephone Lines : 31.08 million (2012) Cellular : 893.862 million (2013)
Internet Services	Internet Users : 61.338 million (2009) Internet Hosts : 6.746 million (2012)
Economy	Agriculture : 49% (2012) Industry : 20% (2012) Services : 31% (2012)
Software Outsourcing	49% (2011), 52% (2013), 56% (2015)

Table 2 : summarized report of the progress of ICT in India

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