ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 10, Issue, 01, pp.63893-63896, January, 2018

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

WOMEN'S DEVELOPMENT IN TECHNOLOGY

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ARTICLE INFO

Article History:
Received 28th October, 2017
Received in revised form
23rd November, 2017
Accepted 17th December, 2017
Published online 19th January, 2018

Key words:
Science,
Technology,
Women.

ABSTRACT

Actually, how long have people been active in science? The answer is the same for both women and men as long as we have been human. One of the defining marks of humanity is our ability to affect and predict our environment. Science, technology, and mathematics all have been part of our human progress, through every step of our path to the present. Women and men together have researched and solved each emerging need. Women Symbolize 'Prakriti' means 'Nature' in Indian Philosophy. She creates and nurtures the creation to bloom. She signifies 'sakti' - the power that drives the system. True, that the status of Indian women has eroded significantly since the vedic times. Nevertheless, 20th century saw reawakening and a steady upswing, which is largely attributable to spread of Education and social reforms. In this paper I covered few latest developments in Science and Technology by women.

Citation: Manisha A. Bhusa, 2018. "Women's development in technology", *International Journal of Current Research*, 10, (01), 63893-63896.

INTRODUCTION

A basic function of technology and energy is to be able to mitigate the hardship of physical labor. As women are the primary suppliers and consumers of energy in rural areas, the success of the rural energy policy is intimately connected to the conditions of women's labor that efficient energy technologies will offer substitutes for. Putting a value on women's work and considering their contribution to the national economy is essential while formulating the appropriate energy, environmental and development policies at the national level. Access to scholars and information has always depended upon gender, location, birth and luck. If one was born to a secure family then one might learn to read, write and cipher. Therefore, if a woman was literate, she was likely to be numerate and technical as well. Perhaps one had a tutor, a benevolent father, husband or brother who was willing to share knowledge. Perhaps one lived during a time when women had the great convent schools of England, France and Germany open to them. Regardless, the overwhelmingly vast majority of people, both male and female, had no access at all. The freedom to specialize in scholarship rarely put food onto the table.

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Women's activities are primarily related to the reproductive sector of the economy. Their activities include bearing and rearing children, cooking, housework, etc. Besides, rural women play an important role in the local production system as they are engaged in production and processing of food, tending cattle, fetching water, crafts, handlooms, etc. The labour spent in domestic activities and many traditional sector activities is not paid for monetarily, or even calculated as such. Thus women work harder, many longer hours than men and this difference is always greater in a developing country. The facts are clear. The scent of a woman has become the ascent of women. If the glass ceiling has been broken and the business boardroom is no longer a male precinct, now, even the final frontier – technology – has put ladies first. The findings of an annual study, Embracing the Information Age: A Comparison of women and men business owners, commissioned by IBM, indicates that women are better adapting to new technology than men. Now, for the specifics. Among the sample population covered by the study, 23 percent of female – owned businesses have homepages, as against 16 percent of male-owned ones; 51 percent of women use e- mail frequently, compared with 40 percent of men; 22 percent of women use the Internet frequently for research versus 14 percent for men; 9 percent of women use the Internet to review opportunities or to make contract bids, juxtaposed with 3 percent men. The clincher? Seventeen percent of female business – owners say that the most important reason for using new technology is to

"Explore new strategies for growth" versus 10 percent of men. What's more, the study reveals that female business- owners will increase investment in hardware and software by 51 percent over 5the next year. "Female owned business tends to be younger. Technology, if leveraged properly, allows these businesses to catch up with more established ones," says Bruce Rosenthal of NFWBO, which conducted the study. For all the talk of men being from Mars and women being from Venus, down to- Earth facts show that She clicks with technology better than He doe. From among the respondents to the study, women score over men even in the way technology is used to assist business: responding to customers (39 percent compared to 32 percent); speeding up product introductions (28 percent verses 23 per cent); and improving marketing efforts (24 percent as against 17 percent). According to psychiatrist Samir Parikh, MD. **"**Women are more flexible when it comes to adapting to new circumstances. While it is proven that women are the psychologically- stronger sex, this holds true for adapting to technology."

Gender Bender:

a) Business : 23% women Vs 16 % men
b) e- mail use: 51% women Vs 40 % men
c) Net for research: 22% women Vs 14 % men
d) Net for opportunities: 9% women Vs 3 men
e) Technical inputs for growth: 17% women Vs 10% of men.

WOMEN IN THE 21ST CENTURY

Development in Science and technology is possible only because of literacy. In India *Mrs. Savitribai Phule* has taken initiative for literacy. I am very grateful to her. Women are an integral part of human society. But for a woman, there couldn't have been any man. She is the mother of mankind. Despite holding such an important and unquestionable position, role of women has been defined by men over millennia. Our Vedas tell us that women held an important place in ancient culture. No ritual was ever complete without the presence of a woman by her man's side. All our gods are worshipped alongside their heavenly consorts. There is no dichotomy there. No one questions this. The staunchest of male chauvinist reverentially bows his head to Goddess Lakshmi, or Durga. It is not considered a sign of weakness to bow to female deities. Women at home and society in general, are a different cup of tea. They are treated as second class citizens. How did this 'battle of sexes' begin? How did the men win the winning hand? I think that economics had a role to play in the scheme of things. When man took on the role of a bread earner, and woman took the natural role of a nurturer, these roles suited their intended role by the Creator. Man was physically strong, while the woman was inherently strong. Over a period of time the man started believing that his role was superior to that of the woman as without him there would be no food at the table. Woman's role was taken as for granted. The physically feeble woman was led to believe this lie for centuries. Someone as respected as Socrates said that the only reason he put up with his wife, Xanthippe, was that she bore him sons. He said it was like putting up with the noise of geese because they produce eggs and chicks. What an analogy from the most revered philosopher of all ages! Closer home Manu said in 200 B.C.: "by a young girl, by a young woman, or even by an aged one, nothing must be done independently, even in her own house". "In childhood a female must be subject to her father, in youth to her husband, when her lord is dead to her sons; a woman must never be independent." It is only when things went way beyond the level of tolerance that the women raised their voices. The first such voice was heard loud and clear in the early 19th century, when the term 'women suffragists' became a household word in the west. We were a British colony at that time, but women across Europe and United States rose as an entity demanding suffrage, or the right to vote. It is to the credit of these courageous women that today women's right to vote is a 'given' in most of the free world, though there are still some countries, mainly in the Middle East that still deny women their universal right to vote.

The suffragists had two points of views. One view was that women's natural place was at home and the voting rights will enable them to help formulate laws that affect life at home. The other view was that men and women should be equal in every way and there was no such thing as a 'natural' role for a woman. The 'suffrage' movement can be seen as the first wave of the 'feminist' movement that caught widespread imagination in 1960s -1980s. This second wave dealt with the inequalities of laws, as well as perceived cultural inequalities. Although the term 'feminist' was coined in 1880, its usage as a movement gained ground in 1960s onwards. 'Feminists' were those men and women who wrote, spoke and acted on behalf of women and their rights to social, economical, and political equality. Famous writer Rebecca West defined feminism the best with her now famous comments, "I myself have never been able to find out precisely what feminism is: I only know that people call me a feminist whenever I express sentiments that differentiate me from a doormat, or a prostitute." Unfortunately this wave got more publicity and notoriety for now infamous, and according to some 'fictitious' bra burning episodes, and got identified with that. In this phase, women tried to equate themselves with men by proving that they were as good as men, if not better. Women's Rights Movement gained mass support in the latter half of the twentieth century when the essential problems like discrimination, inequality and limited opportunities continued to confront women in all spheres of life. The phrase 'Women's Liberation' appeared in print media in 1966. Late sixties also marked a period in human history when more and more women joined institutes of higher education. From then on, women have not looked back.
Today at the dawn of the 21st century the women across the world are placed at a position of advantage. They are literally on the move. They are paying heed to their inner voice. They are no longer interested in hollow jargon and jingoism. They are finding their individual and collective voice. They are aligned with their conscience, moving ahead with purposeful strides.

4000 YEARS OF WOMEN IN SCIENCE

The first literature appeared some 4,000 years ago. Stone and bone records stretch back further than those first alphabets, but give us no names. The very first technical name was male - Imhotep - the architect of the first pyramid. The second technical name was female - En Hedu'Anna (c.2354 BCE). Certainly women were questioners and thinkers long before that. Most myths and religions place the beginnings of agriculture, of laws, of civilization, of mathematics, of calendars, time keeping and medicine into the hands of women. The names of these goddesses may not be realized as actual people, but they must have been real women, else why preserve the mythos?

Dr. Gerda Lerner said in her address as the new president of the Organization of American Historians. "If the bringing of women - half the human race - into the center of historical inquiry poses a formidable challenge to historical scholarship, it also offers sustaining energy and a source of strength." They contributed in all the ways there are to the technical advancement of humanity. They held the same burdens of scholarship as the men did, and they accomplished just as much. These women left a remarkable legacy. They were as resourceful and passionate about their work as any scientist today, and certainly as creative. Their stories are a clear light to the future.

WOMEN IN IT RESEARCH FROM 2009

Below is the latest research relating to women in IT. The technology industry is one of the fastest-growing industries in the U.S. The United States Department of Labor estimates that by 2016 there will be more than 1.5 million computer-related jobs available. Technology job opportunities are predicted to grow at a faster rate than jobs in all other professional sectors, or up to 25% over the next decade. The goal is to: Tell a "coherent story" about the current state of affairs for technical women, synthesizing the best available data into one, easy-to-access resource; Provide an overall summary of the key barriers to women's participation in technology and promising practices for addressing these barriers; Serve as a benchmark for measuring the future effects of national industry efforts to increase women's participation; Serve as a benchmark for companies who wish to use the report to gauge their own internal progress; Serve as a resource for advocates and change agents.

ICT is the major driver of growth in productivity in the European Union. The ICT sector not only drives innovation, but fuels competitiveness in the global economy. Jobs in information and communication technologies (ICT) sectors like telecoms and the Internet are therefore key sources of growth and crucial for the growth of the economy. However, the EU's competitiveness depends on attracting and keeping skilled workers, especially in the high-tech sector, including women. But while a shortage of around 300,000 qualified engineers is expected in the EU by 2010, fewer than 1 in 5 computer scientists are women. In short, Europe needs more " cerebella's" – women equipped with the e-Skills needed for the future. These skills are key to ensuring Europe retains a major role in the ICT sector of tomorrow. To tap this vast pool of talent, special attention must be paid to raising the participation of women in this field. It is fundamental not only that no one is left behind but that the sector benefits from increased diversity and productivity gains that have been demonstrated to come from a better balance of women in top jobs and technical jobs

WOMEN IN SCIENCE AND TECHNOLOGY

Flexible time is one of the classic examples of a WLB policy. But what the Corporate Leadership Council extensive survey and the subsequent researches show, is that if S&T companies and universities do not manage the relationship between flexible time, workload and career, it is not going to work. If we don't manage it, flexible time will become a negative factor for the career of those who use it – so far, mostly women. If we do not control workload, flexible time will not contribute to work life balance.

Women are still under-represented in Science, Technology, Engineering and Mathematics (STEM). Even though there is evidence that there are differences in women's participation in STEM by discipline and sector, there is an issue of very high attrition between the stage of engagement with STEM subjects. Although there has been an increase in the number of girls taking STEM subjects at "A" level, there has been a greater increase amongst boys. The reasons for this are:

- General factors that affect women's participation in the labor force.
- Specific practices in relation to STEM subjects and employment paths. As a result, some 76% of women with SET training are not working in SET sectors compared with 51% of men.
- The "gendered nature" of specific science disciplines which tend to be self-perpetuating and lead to a decline in participation as women progress up the STEM professional ladder.
- Structural reasons why women are less engaged in STEM-relation self-development including the lack of information targeted at science disciplines to highlight commercialization funds to promote women technology entrepreneurs.

A definitive up to date evidence base for data and commentary on women in IT employment and education. BCS, e-skills UK and Intellect, with support from BERR, have worked in partnership to produce a 'Women in IT scorecard.' The report starts with an analysis of the low female representation levels in the IT workforce and then follows this issue back to the apparent reluctance of females to take Computer Science / IT related subjects at higher and secondary education levels. Inspiring people to become engineers and to maximise their potential within engineering is vital to the continuing health of the UK economy. However the UK is failing to keep pace with the demand for engineers; while total university admissions rose by 40% from 1994 to 2004, the annual number of students starting engineering degrees in that period remained static. Retention is another problem; with just over half of engineering graduates subsequently choosing to enter the profession.

2009 Award Recipients

The Google India Women in Engineering Awards were instituted in 2008 to recognize and reward deserving women students in Computer Science and related majors, and inspire them to become active participants and leaders in creating technology. We had 9 award recipients in 2009 and 16 in 2008.

- Amisha Khera - Jaypee Institute of Information Technology – B.Tech – Will graduate in 2010
- Aiswarya Cyriac – Indian Institute of Mathematical Sciences – Integrated Ph.D – Will graduate in 2013
- Anjali Sardana – Indian Institute of Technology, Roorkee – Ph.D – Will graduate in 2009
- Gauri Hiren Joshi – Dhirubhai Ambani Institute of Information and Communication Technology – Ph.D – Will graduate in 2009
- Kurchi Subhra Hazra – National Institute of Technology, Durgapur – B.Tech – Will graduate in 2009

- Sahiti Polishetty – IIIT Hyderabad – B.Tech – Graduating in 2009
- Sameena Shah – Indian Institute of Technology, Delhi – Ph.D – Will graduate in 2009
- Sarika Mohapatra – Indian Institute of Technology, Kanpur – B.Tech in Computer Science – Will graduate in 2010
- Supriya Vadlamani – BITS, Pilani – M.E – Graduated in Nov, 2008.

CONCLUSION

21st century is the century for change. The Planet Earth is ready for 'The Shift of the Ages'. In this New Age, love and compassion will rule the roost, and the woman with her natural attributes of compassion will sow the seeds of global transformation. These changes have already begun, and soon they will gain an unprecedented momentum. The time is ripe for women of all races, castes, class, and nationalities to come together to be the harbinger of this change. Mother Earth is crying for attention, soon like the mythological 'Shakti' it will show its true might and annihilate all the evil forces along the way. Only women can be empathetic to the 'Mother's plight in her hour of need. When I say 'women', I mean the 'feminine' in men and women alike. Indian scriptures have always spoken about 'Ardhnareeshwar', the Masculine- Feminine deity. The time has come to invoke that Masculine-feminine balance in all of us. Events on Earth demand the emergence of the feminine essence of Love all around. In the 21st century women do not need to look at the historical injustices done to her. It's time to put all that behind her and look forward to her empowered role in this 'Aquarian age'. Women today need not look anywhere for a perfect role model. They need to look within and listen to their intuition, to take the right action at the right time. All they need right now is to set the right intention, and all their intentions will bear fruits sooner than later. Such is the power of the New Age.

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