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Gender Based Study of Professional Technical Education in Women University in Pakistan

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Abstract

Study delves into the complex behavior of women yet not significant participation in Techno-Economy posing questions to either the investment on women tech-education is worth it or, there is some need to moderate more the family, marriage, job type, male attitude, guidance/counseling, teachers, age, pay/salary, non availability of flexible work hours, your choices, job complexity, health hazards for women significant participation in engineering, mathematics, science, technology, in short techno-economy of a country.

Keywords: *Techno-Economy, Women Engineers, Factors influencing Women Engineers.*

Introduction

We have seen and heard about women for equal rights movements (Buechler et.al 1990). Women, consequently, achieved many goals of equal opportunity in education, in job market, right to vote etc. Now that they are getting education and even having separate institutions for getting Graduate degrees but do they really are able to participate in the job market equally. The study focuses on the females doing the job after completing education and what type of jobs are they doing. Are they still used for the job of receptionist or they have become professional. As a receptionist she is not contributing, as healthily as a professional, in economy.

Though, it is said that they need working outside homes, but we also hear comments like "they have deprived many males, of the chances to get the job". But it is open secret that they are in the job market and earning, in some cases, much better than the males. So, we are just studying about the statistics of women contributing in the job market for a better economy. They definitely play a vital role by working as house wives, sisters, mothers and daughters. The moral and social support, provided by them to males, is still recognized in several societies in the world. The status of women there is considered to be sacred and divine. But apart from that the paradigm shift reflects more and more females becoming professionals and earning significant amount for helping their male counter parts in running the every day life. The evolution of her as a professional is due to the movements discussed above.

We intend to study for a specific time period the degree holder women are active in which job market of the society. The study is just focused towards empirical analysis of data gathered through official source just for study purposes. It will give the ratio of women who are doing the job, who are doing professional jobs, which fields do they prefer, is the limit from availability of seats or depends on how many students appear for the program, pay range in graduates from different courses.

It may be helpful for new researchers in focusing some specific area in women education. It may also provide important feed back to educational and professional organizations. The study can be used in variety of ways by various entities in society.

Intentions of noticing the job type are also there to get the picture of present era educated women has improved the status in job market from show piece for attracting the customers to active role players in business development. Types of job in the past were doctors and teachers (Eccles & Harold 2001) and some were selected as receptionist or symbol of marketing as is depicted in magazines and TV channels. So, we feel a bit improvement in the women's image in the business world. She is demanded highly in showbiz but at the same time the percentage of her activity in other more graceful professions is increasing.

Women's role as great contributor towards economy is now highly accepted. Their capability is at par with male counter parts. Only problem is they don't get the motivation and appreciation from socialzers (Eccles & Harold 2001). It comes out to be a situation where females are now willing to participate but the problem is male and the social setup. The lack of motivators and appreciators is another analogy in this regard. The study is to see their natural tendency and what factors do the females think are reason for not getting to active professional life and why do they still are becoming teachers.

Rationale

Increasing pressure on women may result in disturbance of social setup. Television advertisement, programs, seminars and efforts done by other groups to motivate women may not appreciate women in techno-economy rather put another burden of not going for maternity leave, not caring for family, not raising kids. This may badly impact the standards of women social life. It appears to be a forced paradigm shift opposing the women status for thousands of years, often claimed to be the real status of women as most of the other species show the same male/female attitude and behavior as do the human race.

Study is a scrutiny of women in techno-economy. Focus of their demands regarding this industry, their reservations and in contrast government policies will give an overview of what is to some extent forced on women despite their natural behavior not consistent with jobs in technical organizations due to frequent change in the technology and issues of updating and changing to new technology which often is objected by big firms in the world due to work force behavior. Change always poses threats however positive change may bring about peace and harmony. Changing females' behavior, from social to tech-oriented, by passive forces needs to be scrutinized, as positive or negative change so that social scientists may not raise their voices for destruction of social setup adopted by all for thousands of years.

Literature Review

After Amazon movements we have observed many changes in American social setup, women challenging the traditional perspective on early American women although their role designated by change is debated often. Growing Globalization has changed the trend many countries. Females in every country are coming forward to pursue higher education to gain access in fields requiring higher education and thus getting independent. Before, she was a dependent for survival needs though she was to nurture very important entity of our society the work force of tomorrow (Woodhouse 1988). It has been observed that among 40 low-income countries, the gender gap has averaged 20 percentage points since 1960 (Elizabeth, King & Anne 1993).

Conclusions derived from John Hopkins Research depict females perform not as good as males in studies heavily based on mathematics but in verbal studies the boys and girls both scored well, moreover differences between the sexes are also obvious in educational pursuits (Eccles & Harold 2001). Differential demonstration draws attention towards peculiar educational sectors of women interests for the reason being more direct investment in sectors which are women oriented in terms of performance as well as participation.

The competing perspective is that IT has produced a fundamental change in the U.S. economy, leading to a permanent improvement in growth prospects (Jorgenson 2001). Patterns are observed in advanced nations for they trade technology for basic necessities generating huge revenue for cost per technology item higher than the basic items produced in developing nations. Henceforth, techno-economy is vital for macro-economic stability. Argument of Long-Term and Short-Term Stability, or De-Stability in social setup is out of our research scope. Marginal products of IT equipment have been observed favorably in comparison with other non-IT equipments. Economy-Wide and Industry-Level Impact of Information Technology (Gill, Young, Pastore & Turk 1997).

Return on Investment in Financial Management motivates to derive conclusions from empirical studies. Change due to advancements has not only brought solutions to problems but has also contributed to new problems to be solved and though about (Woodhouse 1988). Investment in technology production supports economy rather investing in importing and using technology; however increase in production is attributed to Using of IT (Daveri 2003). Significance of women in producing IT related products may be undermined due to traditional occupational segregation however investing in Women IT education needs significant output from women workers.

Investment in women IT resources are in up surge. In Saudi Arabi, 155000 IT oriented women funds were released (www.findarticles.com) to motivate women participation in Techno-Economy. We see women in Pakistan as Prime Minister, solders, pilots, speaker of the assembly, information minister etc. Reports are in favor of investment in women resources as aligning with new technology is what UN is having as a goal to empower women in Africa, Asia etc. Yet their participation is not significant in Techno-Economy (Bennedsen, Mesiner, Francisco, Gonzalez and Wolfenzon 2007).

Discussion

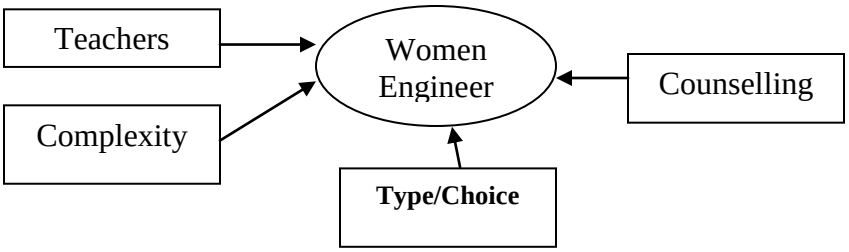
After analyzing the database one may deduce women's role in science, technology, engineering and mathematics to be passive or limited. They now are taking classes in special women institutes yet not taking part in active development of technology. Rather they are working in technical organizations doing the same old passive jobs requiring verbosity and magnetism. They are working still as teachers, lecturers, technical writers, administrators, HR assistants; raising queries of how to motivate them to participate in techno-economy.

Database included in the study reveals women mostly not doing job. As out of 3428 women qualifying from a women university, imparting education of engineering as well as making women aware of their importance in work place in addition to equal rights, only 1198 reported on job. The figure has changed over the years as it only includes students graduating in 2007 starting their education from 2001. This is after students have been motivated to do job for betterment of economy. 253 number represents absolute figure of women in teaching professions. This does not include Lecturers, Assistant Professors and those doing jobs in some other capacity in educational institutions.

An engineering department of Software started in 2001 with an enrolment of 68 students in first batch. Next year 108 students opted for Software Engineering, perhaps because of institute's policy to experiment or students applied in larger number for admission.

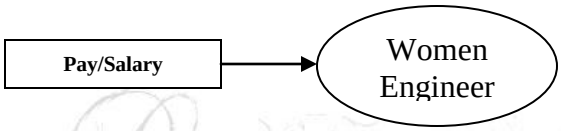
Later in 2003 just 43 students were enrolled which showed a bit increase of 3 students taking the enrolment number to 46. It may be because students were enchanted by it due to usage of computers and one may get flexible work hours in this field. The number increased in very next year almost by 40%. Students then showed a great fall in numbers to the series of 40s; it may demonstrate policy matters for enrolling just those capable of becoming engineers. Amazingly, the number of engineers in second session were highest showing greater the number of female students results in greater number of women doing engineering job.

Factors that may have contributed in little enrollment in next two years can be teachers, complexity of engineering, type of education and females choices, lack of guidance or counseling.

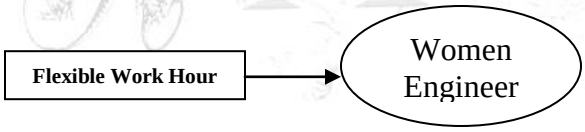


Education is predictor of number of professionals in that field coming in the market in future. Low enrollment reflects women interest depreciated software engineering or perhaps the pay or salary issue has a strong influence in women's choice of software engineering.

This is in relation to women still are paid low salaries in contrast with their male counter part. Equal work load, better performance, regularity and punctuality are observed to be the traits of women workforce yet salary and compensation is not equal to male workers. Injustice has been discussed in many studies with women work force in all fields which may be because of women's natural needs of going on leave and other related problems which are out of their control.



Some interviewees revealed the family pressure forced them to quit their job in technical organizations though job was not of pure engineering nature however requirement analysis and modeling the engineering systems using UML was the main task which sure is significantly important for engineering. Will to continue job was obstacled by family members to conform to social norms of the society as well as beliefs.



Though pressure was not extensive but motivation to do teaching job as per the norm in society pressurized to do lecturers job. Influence is strong in case of married women due to their domestic obligations are more important in addition to the cultural perception of work-family conflict in women resources case may disturb family ties which still are more strong.

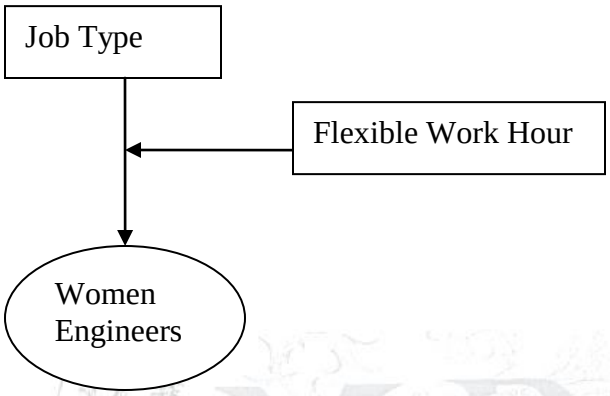
We don't see the concept of decrease in women commuters for working from home to better manage the family-work conflicts. Rather she has now double burden of serving in organization as well as domestic service to serve husband more over children pose a still greater danger to competent women resources resigning from job. All these sub factors are having strong ties with family factor influencing significantly the women engineers.

Above discussion also reflects the complexity or in other words regular innovation in engineering field, de-motivates women in pursuing their profession or further. Thus they may leave the job or may be rotated to some other task of passive engineering nature. Advancements in science and engineering are abrupt resulting regular knowledge updates by engineers to coup up with the demands of future thus increasing their credibility as valued HR.

Yet another interview with woman revealed the non availability of flexible working hours forced her to leave engineering job in a software house. As mentioned earlier in discussion that it is very important for

women to serve family as men yet are not accepting roles of baby sitters though exceptional cases are there raising kids in case of some serious problems however it's not common.

Qualitative analysis using expert interviews describes women as soft, loving, caring, loyal beings. Changing groups is taken as opportunity cost to safety. Perhaps it is because of this that more women are found to be single mothers and not willing to remarry. Male attitude in conjunction with access to justice in all societies may have been the cause however experts researching in US and UK reported that it may be because of their soft nature that they prefer to do simple, soft and secure jobs. Job type factor on principal component scale was above .7 which reflects that this factor is significant in women going to be engineer's perception. Mostly they still prefer to do soft jobs unlike men who are more adventurers and aggressors. Flexible work hours then come in to play the role in favor of women as even softness may be over ruled by the non availability of flexible work hours later in the job environment.



Interviews with female professionals suggested family and marriage as the big obstacles in women's participation in techno-economy. Choice and job liking and disliking also played a huge role in women's non participation as opinions through formal and informal interviews revealed their interest more in communication tasks rather dealing with machines and numbers. Grouping and socializing is more significant in women's life than men's. Syndrome of loneliness affects more females than males and buffering is often manifested by masculine behaviors and rare in feminists. Feminists want to speak out about current group dynamics unlike observatory behavior of opposite sex.

The study doesn't undermines potential of 52 percent of the population rather directs the investors of all sort to initially level the field for investment to gain more than being in significantly low participation of women. Waiting for the paradigm shit is highlighted to match with 'strike with all your might, while the iron is red'. Emphasis may motivate women without creating a chaos rather evenly harvesting minds will bring better results.

Research Implications

Investment in women education is crucial. Significant output is yet missing from women to do in techno-economy. STEM is still seeking more women workforce to help a nation flourish yet investments despite their non participation in women universities and institutes of any type are very huge. Doing investment at right time produces results. Striking now when the iron isn't red will consequently waste our might and potential which may have been utilized in some other sector producing far better outputs than women technical and engineering education.

Rethinking of the education policy makers may result in better outputs as women participation in active techno-economy suggest invest in fields where women have better work opportunities, flexible working hours etc.

Limitations

Lack of financial resources and time restricted research scope to be limited to just a single university dedicated to women's education and development. Also, small sample size may devalue the credibility of study; however interviews with professionals and their qualitative analysis of the research topic augments the study. The self developed instrument is still in development phase however, inter rater validity encourages to use it in special demographic contexts. Special care to consider all factors that may hinder women's participation in Techno-Economy elevates research. Proper discussions with professionals and professors in addition to doctors of behavioral sciences and gender studies directed the process of factor finding. Target population's diversity was also a limitation as just students were focused initially mostly non married and of age 20-25.

Future Research

It is supposed to be directed towards the correlation of variables having significant impact on women's participation in techno-economy. Some key factors have been pointed out here some of which are generalize-able globally and some locally. The variables are also in need to categorize with respect to age and location. Future research is projected to find a sequence in which they influence females' choice or drive towards engineering and mathematics fields.

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