

Women Empowerment through ICT – An Empirical Study



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Multiplication of Information and Communication Technology (ICT) has outstandingly been assuming a fundamental role in women empowerment and financial inclusion in India in the progressing system of financial changes. The study follows Descriptive research design. The sample consisted of people located in Chennai and its surroundings. The researcher adopted structured questionnaire to collect the responses from the respondents. The main objective of the study was to understand the impact of ICT on women empowerment. Suitable hypotheses were framed and tested to support the study findings. Both descriptive statistics and inferential statistics were used to analyze the responses. This paper further makes an investigate the job of ICT activities in engaging women, the issues and prospects of such activities, lastly offers proposals for significant utilization of ICT for women empowerment.

Keywords: Gender, Women Empowerment, ICT

1. Introduction

Populace, workforce and business are firmly interrelated and an adjustment in the size, creation and dissemination of the populace will change the statistic structure of the work force. Thus, an adjustment in the size of the work force, level of business and openings for work will influence segments of populace change, especially prosperity and movement (UN: 1976). As indicated by prescribed global definitions, jobless people looking for paid employments are considered as the piece of the work force, yet people occupied with non-salary creating occurrences, similar to women occupied with household work in their homes, are rejected from it (UN: 1973). Engagement in work force changes among societies, crosswise over age-gatherings and between genders. Census or work force overviews in various settings over the globe features moderately low work force cooperation pace of women opposite men, and critical differences in women involvement rate among nations (Jose: 1989). Various examinations contribute to the view that theoretical and estimation related issues, inferred in the recognizable proof of women indoors of the work force, fills in as a clarification to the low degree of work power contribution rate among women, watched especially in the vast majority of the developing countries (Agarwal: 1985). Once more, social impression of conventional social orders show in inflexible thoughts about relative gender orientation jobs are found to win in these nations certified (Jose: 1989).

Empowerment is a multi-faceted, multi-dimensional and multi-layered concept. Women empowerment is a process in which women gain greater share of control over resources –material, human and intellectual like knowledge, information, ideas and financial resources like money and access to money and control over decision making in the home, community, society and nation and to gain power (UN,1995).

2. Information and Communication Technologies (ICTs)

Throughout the globe, nations have established Info and Communication Technologies (ICTs) as an effectual amenity in yielding the monetary activity in systematic management and in advancing human assets. Information technology along with Communication Technologies (CTs) has contributed unparalleled transformations in the manner humans disclose and perform business, happiness and socialisation. With the appearance of Info technologies on the Global Programme and the promulgation of Information and Communication Technologies strategies by several states, governance has perceived the “Confluence of locus technologies and Electronic Governance” as a device for excellent governance, vindicable development, economic globalisation and empowering socially.

Information is critical to justice and equality. With the development of Information and Communication Technologies, a common human being is able to access global data. India’s position in the software intent ICT sector has strengthened due to emergence of ICTs on the global strategy and declaration by ICTs policies by different state governments. For instance many states in India like Andhra Pradesh, Goa, Delhi, Tamil Nadu, Kerala etc., declared many ICT strategies in their states.

Present research shows that ICT is a permissive environment for the growth of the economy. ICT promotes trade, education and occupational prospects. ICT improves socialization. If admittance to and usage of ICT, is straight associated to socio-economic development, then it is integral to assure that women in developing countries comprehend the importance of these technologies and utilize them in contributing to their countries development or else, women will grow criticized from the lame stream of their countries and of the nation.

3. Socio-Economic Empowerment

Social empowerment is a procedure of procuring data, information and aptitudes and supporting the engagement of women in social associations with no gender segregation in everyday exercises. It is additionally bothered about implanting a spirit of fairness rather than subjection among women. Social empowerment targets making an empowering situation through receiving different strategies and projects for advancement of women, other than giving them simple and equivalent access to all the fundamental minimal solutions in order to empower them to understand their maximum capacity.

Women are monetarily enabled when they are upheld to participate in a profitable action that permits them some level of independence. This kind of empowerment is additionally worried about the quality of their monetary involvement, past their essence as inadequately paid employees. Women's financial empowerment requires rearrangement and reallocation control just as monetary related assets to make budgetary value and access to material assets on the miniaturized scale and large scale levels, which is needy upon gender equity and re-assessment of women's work.

4. Women Empowerment and ICTs

All over the globe ICTS have transformed the existence of people, organizations and certainly whole world. Women sight that ICTs could "herald a paradigm shift of freedom" for them. It could empower women over geographies to link and generate identities collectively. It also provides spaces to express themselves and to action themselves that trespass social cultural boundaries. Several reports sights disproportion between men's and women's access to engagement in ICT and affirms that many requirements to be done to make sure that women equitable relish the privileges emerged from national knowledge based economy at every levels of ICT policy and custom.

This is a intimidating threat faced by all inhabitants in the world today and with special reference to countries that are still developing which should consider promising this as a fundamental policy, that all people can access to the technologies and that they should be possessed with the essential education and expertise to use them. Due to universal biases in gender in ICTs and their usage, women experience discrimination in lack of information in society than men. Women still never give up. Even poor resource women and illiterate women and their companies are known of the power of ICTs processes and if given a chance will start to use them to satisfy and improve their primary needs and strategic concerns.

ICT builds new channels for socialization, mobilizing the required resources for women who are poor in resources. Psychologically the predominance of women in India are still bound by tradition and are in an adverse position. With the advent of globalization, there is a swift in the opening of the Indian economy at a fast pace, in comparison to the past centuries, wherein ameliorates in IT have benefitted a global communication network that exceeds global boundaries which impacts on Government policy, private perspective and behaviour.

Information frees human from penury and empowers them. It is clearly understood that any attempt made to improve the quality of life of humans in the countries still developing cannot be completed without the empowerment of their women populace. ICTs have emerged as a potent tool for empowering gender in a country that is still developing like India.

According to the World Bank the reach of Tele density in India is 88.46% of the population in 2019. The number of internet accounts in India, pegged at 566 million driven by rural internet growth and usage. It is now estimated that there are 251 million internet users in rural India and this is expected to reach 290 million by the end of 2019.

The UNESCO reviews on "Gender issues in the informal society" states the capacity of women to successfully use facts received thru ICT is surely dependent on many social elements, including literacy and schooling, geographical boundaries, mobility and social elegance.

Therefore, the clear assistance on excellent practice for Information and Communication Technology project interceding's from the micro lith levelled participatory estimation of needs to the macolyte levelled of gender sensitive policies on framework is essential. (Jorge, 2002, Huyer and Sisoska, 2003)

5. Review of Literature

Jawaharlal Nehru said, "to awaken the people, it is women who must be awakened; Once she is on the move, the family moves, the village moves and the nation moves."

Education is one of the most crucial approach of empowering women and giving expertise, skills and self-esteem essential to participate in their self-development..

Women empowerment and her engagement within the financial activities, community service and politics is not a brand new phenomenon. Women were taking part inside the economic actions from indefinitely long period. At the equal time, women participation within the information and communication technology (ICTs) in the developing countries is a latest trend and the international populace become capable of understanding the importance of the ICTs for monetary and social empowerment of women with Beijing declaration, 1995.

Both in the developed and only growing international locations of the arena, restrained range of research had been carried out in the area of empowerment of women through ICT.

5.1 Review of International Studies

The conception of empowering women through ICT is a recently discovered trend and so only few related international studies were taken.

Badran (2010) determined out that the distinctive ICTs initiatives like free net, Personal Computer for each domestic, decreased broad band fees and the different e-techniques are policies followed by using the Egyptian authorities to enhance and enlarge the concept of intellect based economic system and therefore empowering all Egyptians to play a bigger position in the Egyptian society. Furthermore most of these regulations associated with ICTs could further empower women and reduce the gender difference that exists in Egypt in addition to in many other countries. Descriptive statistical tools like mean, Standard, widespread deviations, minimum and maximum method of simple sum and method of Principle Component Analysis have been used for statistics analysis.

5.2 Review of Indian Studies

Meredith Anderson and Welsey Shrum (2010) argued that in India, a direct case for the positive impact of new information and communication technologies on gender equality is difficult to build. They pointed out, in light of the physical and social restrictions placed on many Indian women in terms of both domestic responsibilities and limited physical mobility, a direct case for the positive impact of new information and communication technologies (ICTs) on gender equality is difficult to build.

Meredith Anderson and Welsey Shrum (2010) argued that in India there are many social and physical restrictions were placed on several women in terms of both household responsibility and restricted physical mobility, a direct case for the positive impact on ICT on gender equalance is difficult to build.

6. Research Objectives

The following objectives have been formulated for the study;

1. To understand the Demographic profile of the respondents
2. To know whether Religious and Marital Status difference exist among Women Empowerment.
3. To know the relationship of ICT on Empowerment and Socio Economic Parameters.
4. To know the Residential Location and Occupation impact on Women Empowerment.
5. To understand the impact of perceived organizational support on continuance commitment.

7. Research Hypothesis Formulated

The following hypotheses were formulated to study the above mentioned objectives;

Null Hypothesis (H1): There is no significant difference between Mean Rank of Hindus and Christians with respect to Empowerment Parameters.

Null Hypothesis (H2): There is no significant difference between Mean Rank of Unmarried and Married with respect to Empowerment Parameters.

Null Hypothesis (H3): There is no association between Information and Communication Technology Awareness and Level of Women Empowerment

Null Hypothesis (H4): There is no association between Information and Communication Technology Awareness and Level of Socio Economic Empowerment

Null Hypothesis (H5): There is no significant difference among Mean Rank of Residential Location with respect to Factors of Women Empowerment.

Null Hypothesis (H6): There is no significant difference among Mean Rank of Occupation with respect to Factors of Women Empowerment.

8. Research Methodology

This descriptive study was conducted with the purpose of establishing a relationship between Information and Communication Technology and Women Empowerment. The population for the study was Women respondents located in Chennai, Thiruvallur and Kancheepuram Districts of Tamilnadu. The data for the study was collected from 245 Women respondents. Information and Communication Technology, Empowerment parameters and Socio Economic Parameters were collected using Likert's 5 point scale which had the following Reliability Statistics.

Table 9.1 Reliability Statistics

Sl. No.	Constructs and Factors	Cronbach's Alpha	Result
1	Information and Communication Technology	0.701	Acceptable
2	Empowerment Parameters	0.836	Good
3	Social Empowerment Parameters	0.708	Acceptable

The data collected was edited coded tabulated for further inferential statistical analysis, which includes Mann Whitney U Test, Chi-Square Test for Association, Kruskal-Wallis Test and Regression Analysis.

9. Findings and Discussion

Mann Whitney U Test for Religion and Women Empowerment

Null Hypothesis (H1): There is no significant difference between Mean Rank of Hindus and Christians with respect to Empowerment Parameters.

Table 10.1 Mann Whitney U test for significant difference between Mean Rank of Hindus and Christians with respect to Empowerment Parameters

Factors	Religion		Z value	P value
	Hindus	Christians		
Women Empowerment Parameters	121.98	125.83	0.378	0.705
Socio Economic Parameters	109.42	160.60	5.052	<0.001**

Note: ** denotes significant at 1% level

Table 10.1 reveals that the significant values of Mann Whitney U test for significant difference between Mean Rank of Hindus and Christians with respect to Empowerment Parameters is significant at 1% level for Socio-Economic Parameters, which means the null hypothesis (H1) is not acknowledged. Hence forth it is evident that significant mean rank difference exists between Hindus and Christians. This shows that Christians are more Socio-Economically empowered than Hindus with a mean score of 160.60. When it comes to Women Empowerment Parameters both Hindus and Christians are equally empowered (P value= 0.705). Hence we accept the null hypothesis (H1).

Mann Whitney U Test for Religion and Women Empowerment

Null Hypothesis (H2): There is no significant difference between Mean Rank of Unmarried and Married with respect to Empowerment Parameters.

Table 10.2 Mann Whitney U test for Significant Difference between Mean Rank of Unmarried and Married with Respect to Empowerment Parameters

Factors	Marital Status		Z Value	P Value
	Unmarried	Married		
Women Empowerment Parameters	129.38	93.03	3.072	0.002*
Socio Economic Parameters	117.75	147.69	2.547	0.011*

Note: * Denotes Significant at 5% level

It is evident from the Table 10.2 that there is no difference between unmarried and married respondents with respect to women empowerment and socio-economic empowerment parameters as the P value is less than 0.050 in both the cases. Hence we reject the null hypothesis (H2) which proves unmarried and married women are equally empowered.

Chi-square test for association between ICT Awareness and Level of Women Empowerment

Null Hypothesis (H3): There is no association between Information and Communication Technology Awareness and Level of Women Empowerment

Table 10.3 Chi-square test for association between Information and Communication Technology Awareness and Level of Women Empowerment

Information and Communication Technology Awareness	Level of Women Empowerment			Total	Chi-square value	P value
	Low	Moderate	High			
Low	4 (5.6%) [6.1%]	46 (64.8%) [46.9%]	21 (29.6%) [25.9%]	71 (100.0%) [29.0%]	108.273	<0.001**
Moderate	10 (10.2%) [15.2%]	39 (39.8%) [39.8%]	49 (50.0%) [60.5%]	98 (100.0%) [40.0%]		
High	52 (68.4%) [78.8%]	13 (17.1%) [13.3%]	11 (14.5%) [13.6%]	76 (100.0%) [31.0%]		
Total	66 (26.9%) [100.0%]	98 (40.0%) [100.0%]	81 (33.1%) [100.0%]	245 (100.0%) [100.0%]		

- Note:** 1. The value within () refers to Row Percentage
 2. The value within [] refers to Column Percentage
 3. ** Denotes significant at 1% level

Table 10.3 denotes that the outcome of the Chi-square test for association between Information and Communication Technology Awareness and Level of Women Empowerment. The P value of the above analysis is less than 0.001, which indicates the null hypothesis (H3) is rejected and proves that there exist a relationship between Information and Communication Technology Awareness and Level of Women Empowerment. Based on the row percentage 64.8% respondents who are less aware about ICT are moderately empowered; 50.0% respondents whose awareness of ICT is moderate are highly empowered; when the respondents are highly aware about ICT they are less empowered 68.4%, which reveals that when respondents use ICT to a greater extent it does not act as an enabler for women empowerment rather the reason behind this may be they become more addicted to ICT.

Chi-square test for association between ICT Awareness and Socio Economic Empowerment

Null Hypothesis (H4): There is no association between Information and Communication Technology Awareness and Level of Socio Economic Empowerment

Table 10.4 Chi-square test for association between Information and Communication Technology Awareness and Level of Socio Economic Empowerment

Information and Communication Technology Awareness Level	Level of Socio Economic Empowerment			Total	Chi-square value	P value
	Low	Moderate	High			
Low	39 (54.9%) [52.7%]	27 (38.0%) [29.7%]	5 (7.0%) [6.3%]	71 (100.0%) [29.0%]	68.953	<0.001**
Moderate	19 (19.4%) [25.7%]	51 (52.0%) [56.0%]	28 (28.6%) [35.0%]	98 (100.0%) [40.0%]		
High	16 (21.1%) [21.6%]	13 (17.1%) [14.3%]	47 (61.8%) [58.8%]	76 (100.0%) [31.0%]		
Total	74 (30.2%) [100.0%]	91 (37.1%) [100.0%]	80 (32.7%) [100.0%]	245 (100.0%) [100.0%]		

- Note:** 1. The value within () refers to Row Percentage
 2. The value within [] refers to Column Percentage
 3. ** Denotes significant at 1% level

Table 10.4 denotes that the outcome of the Chi-square test for association between Information and Communication Technology Awareness and Level of Socio Economic Empowerment. The P value of the above analysis is less than 0.001, which indicates the null hypothesis (H4) is rejected and proves that there exist a relationship between Information and Communication Technology Awareness and Level of Socio Economic Empowerment. Based on the row percentage 54.9% respondents who are less aware about ICT are less socio economically empowered; 52.0% respondents whose awareness of ICT is moderate are also moderately empowered; when the respondents are highly aware about ICT they are highly empowered 61.8%, which reveals that Socio Economic empowerment is directly associated with the level of awareness of ICT.

Kruskal-Wallis test Residential Location with Women Empowerment

Null Hypothesis (H5): There is no significant difference among Mean Rank of Residential Location with respect to Factors of Women Empowerment.

Table 10.5 Kruskal-Wallis test for significant difference among Mean Rank of Residential Location with respect to Factors of Women Empowerment

Factors of Women Empowerment	Residential Location			Chi-square value	P value
	Urban	Sub Urban	Rural		
Empowerment Parameters	115.75	103.04	157.34	14.242	0.001**
Socio Economic Parameters	124.34	141.61	112.21	2.173	0.337

Note: ** Denotes Significant at 1% level

The outcome of Kruskal-Wallis test for significant difference among Mean Rank of Residential Location with respect to Factors of Women Empowerment is shown in Table 10.5. The P value of empowerment parameters is significant at 0.001 level which rejects the null hypothesis (H5). Thus it is determined that there is a significant difference among Mean Rank of Residential Location with respect to Factors of Women Empowerment. The P value of Socio Economic parameters is not significant at 0.050 level which accepts the null hypothesis (H5). Thus it is determined that there is no significant difference among Mean Rank of Residential Location with respect to Factors of Socio Economic Empowerment. Based on the mean rank of rural respondents 157.34 are highly empowered compared to Urban and Sub Urban respondents.

Kruskal-Wallis Test Occupation with Women Empowerment

Null Hypothesis (H6): There is no significant difference among Mean Rank of Occupation with respect to Factors of Women Empowerment.

Table 10.6 Kruskal-Wallis test for significant difference among Mean Rank of Occupation with respect to Factors of Women Empowerment

Factors of Women Empowerment	Occupation			Chi-square Value	P Value
	Student	Unemployed	House Wife		
Empowerment Parameters	48.50	26.76	50.10	21.229	<0.001**
Socio Economic Parameters	44.19	27.83	50.75	18.630	<0.001**

Note: ** Denotes Significant at 1% level

The outcome of Kruskal-Wallis test for significant difference among Mean Rank of Occupation with respect to Factors of Women Empowerment is shown in Table 10.6. The P value of empowerment parameters and Socio Economic parameters is significant at 0.001 level which rejects the null hypothesis H6. Thus it is determined that there is a significant difference among Mean Rank of occupation with respect to Factors of Women Empowerment and Socio Economic parameters. Based on the mean rank of House wife (50.10) are highly empowered compared to Students and Unemployed respondents.

Regression Analysis

Impact of Information and Communication Technology on Women Empowerment

In this study, the dependent variable is the Women Empowerment (Y), and independent variable is Information and Communication Technology (X).

Multiple R value : 0.306
 R Square value : 0.094
 Adjusted R Square : 0.090
 F value : 25.143
 P value : <0.001**

Table 10.7 Variables in the Multiple Regression Analysis

Variables	Unstandardized Coefficients	Std. Error	Standardized Coefficients	t value	P value
Constant	28.969	2.203	-	13.148	<0.001**
Information and Communication Technology (X)	-0.409	0.082	-0.306	-5.014	<0.001**

Note: ** Denotes 1% Level of Significance

Table 10.7 discloses that the multiple correlation coefficient is 0.306 measures the degree of association among the actual values and the predicted values of Women Empowerment.

The Coefficient of Determination R-square measures the goodness-of-fit of the estimated Sample Regression Plane (SRP) in terms of the proportion of the variation in the dependent variables explained by the fitted sample regression equation. Therefore the R-square value is 0.094, which means about 9.4% of the variation in adjustment is explained by the estimated Sample Regression Plane (SRP) that uses the Independent Variable Information and Communication Technology.

The Multiple Regression Equation is: $Y = 28.969 - 0.409X$

Here the coefficient of X = -0.409 represents the partial effect of Independent Variable Information and Communication Technology on Women Empowerment. The projected negative sign suggests that such effect is negative that Women Empowerment would fall by 0.409 for every unit of rise in Independent Variable Information and Communication Technology since Information and Communication Technology cannot be the only factor which influence the Women

Empowerment, there could be other variables such as, Education, Occupation, Family Background, Culture, Income etcetera which would influence Women Empowerment and where coefficient value is significant at 1% level.

10. Conclusion

The study was conducted to study the variables of Information and Communication Technology and Women Empowerment with respect to demographic variables viz. Marital Status, Occupation and Residential Location. The results have supported the hypothesis that difference persists among religion of the respondents and socio-economic empowerment. Further it was found that marital status of women does not affect the empowerment parameters. Besides, demographic variables were found to be significantly affecting the level of empowerment and when the respondents are highly aware about ICT they are less empowered, which reveals that when respondents use ICT to a greater extent it does not act as an enabler for women empowerment rather the reason behind this may be they become more addicted to ICT. Based on the analysis Rural respondents are highly empowered when compared to Urban and Sub Urban respondents. Though, the study provided with several findings which are useful for a researchers, yet, it's not free of limitations. This study is confined to Women located in the three districts such as Chennai, Thiruvallur and Kancheepuram only, so, findings cannot be replicated to other locations. Comparative studies of other sector scan also be undertaken in future research. The finding from regression analysis is that Information and Communication Technology cannot be the only factors which influence the Women Empowerment; there could be other variables such as, Education, Occupation, Family Background, Culture, Income etcetera which would influence Women Empowerment which can be covered in further researches.

11. References

1. Agarwal, Bina, (1985), "Work Participation of rural women in Third World -- Some Data and Conceptual Biases", *Economic and Political Weekly*, December 21-28, pp. A-155--A-164.
2. Badran, Mona, F (2010), "Is ICTs Empowering women in Egypt? "An empirical study" - Cairo University.
3. Huyers, S and Sikuska, T (2003), *Overcoming the Gender Digital Divide: understanding ICTs and their Potential for the empowerment of Women*. United Nations – INSTRAW virtual seminar series on Gender and ICTs, No.1. Beijing Declaration and Platform for Action, (1995), Available: www.umn.edu/humanrts/Instree.
4. Jorge, S, N (2002), *The Economics of ICT: Challenges And Practical Strategies of ICT use For Women's Economic Empowerment*; Paper Presented at UN Meeting on ICTs and Their Impact On and Use as an Instrument for the Advancement and Empowerment of Women, Seoul, Korea, 11-14 November.
5. Jose, A.V, (1989), "Female Labor-force Participation in India: A Case of Limited Options", in A.V. Jose (ed.), "Limited Options—Women Workers in India", ILO-ARTEP, New Delhi.
6. Meredith Anderson and Wesley Shrum, (2010), *Circumvention and Social Change: ICTs and the Discourse of Empowerment*.
7. United Nations, (1973), "The Determinants and Consequences of Population Trends", Volume 1, *Population Studies*, 50, chapter IX, New York.
8. United Nations, (1976), *Population Aspects of Manpower and Employment: A Regional Overview*, ESCAP, Bangkok: *Asian Population studies*, 35.
9. United Nations, (1995), *Report of the Fourth World Conference on Women, Beijing, China. Beijing Declaration and Platform for Action [1995]*. Available: www.umn.edu/humanrts/Instree.
10. World Bank, (1991), "Gender and Poverty in India", Report 8072-IN: Washington D.C.