

# 31

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## Gender Issues in the Advancement of Women through Information and Communication Technologies in South-South Nigeria

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### **Abstract**

*Knowledge and skill in information and communication technology (ICT) has become a necessity for all professionals in order to be relevant and advance in their chosen careers. However, in Nigeria like in many other African states there may be gender related issues that hinder male and female professionals from equal access and utilization of ICT. The study using a random sample of 320 lecturers in universities in south- south Nigeria examined the relationship between the perceived role of women and technophobia on female professionals ICT usage. Data was collected using a Professionals ICT Usage Assessment Scale (PIUAS). The data, analyzed using means standard deviation and chi-square statistics revealed a significant dependence of ICT usage among female professionals on their perceived role and "technophobia". The female professionals also showed a lower level of ICT usage than their male counter parts. Implications for economic development and recommendations are proffered.*

Information and communication technology (ICT) recognizes no bounds in terms of language, culture, gender, location, religion and profession. The rapid rate of its

integration into the global economy cannot be obstructed or undermined as the usage and technological benefits of ICT transcends beyond human limits. Every individual is either directly or indirectly affected by the need or lack of it. ICT has become a powerful tool for economic growth and development and African States cannot afford to lag behind in human capacity building in this sector.

Today's professionals do not have to travel very far to access and update current information nor search for methods to perform tasks at work as knowledge and information abound in ICT. Professionals who are proficient in ICT skills are more effective at work and are assets to their organizations. They contribute meaningfully to knowledge flow which is a necessary tool for engendering productivity of their organization. As a fact, no section of the society can afford to lag behind in ICT skills acquisition or be deprived of access to ICT facilities and training. Professionals should be exposed to continuous ICT training. A study by Ekukinam and Nwosu, (2007) revealed that Teachers who have undergone ICT workshops indicated a low perception on most ICT tasks, an indication that the exposure to a one-shot training is inadequate and as such there should be a continuous exposure and access to ICT training and facilities.

However, studies (Hatkin & Huyer, 2008; Women in development, 2009; STATIS, 2009) have shown that there is a gender digital divide in developing Nations, women participation in information society lags behind that of their male counterparts. Canada (2009) has listed developing nation's girls and women as groups that are disadvantaged in ICT usage and accessibility. Given that girls and women normally form a large part of the human resources this indeed is a draw back on human capacity and economic development of such States. The women folk must be fully involved and participatory to development in all fields; for the rapid socio-economic development of a nation has been observed to depend on the caliber of women and their education (Schultz, 2002). In many countries women even at the professional levels are less likely to use new technologies (Hatkin & Huyer, 2008). Even when women use these ICTs, the purpose for which they use them and the level of sophistication with which they are used also varies from their male counterparts (Msibirano, 2009).

Promoting gender equality and empowering women is one of the Millennium Development Goals (MDGs) for this goal to be achieved Nigerian women professionals' competency and proficiency in ICT skills are of great essence.

### **Perceived Role of Women and ICT Usage**

The fact that women relent in their effort to achieve technologically related strides including the acquisition of ICT application skills are also partly attributable to the women's perceived role of themselves. Few women have actually registered and

made meaningful contributions in technologically related professions. As such there are few female role models that can impact positively on other women's self concept (Madu, 1999; Habeeb, 2001 & Piwuna, 2001). The few number of female participation in technology accentuates the need to increase women in participation through early intervention programmes in science and technology. This is imperative because women drive social and economic growth (Women in Development, 2009). The expectations of the society on a women's role differs from culture to culture and as such the perceived role of a woman is conditioned by such expectations. In the African setting, the women and children play a secondary role regarding any decision or benefits accruing to the family. This situation produces a psychological set back on the women even in the absence of the men (Gowon, 2010). In order to further facilitate the achievement of the MDG of equity and women empowerment wide populations of women need to be encouraged to accept and utilize ICT facilities. The development of the nation thrives if the means of achieving education and accessing information resources are adopted by all.

Apart from the society's influence on the perceived role of women, nature itself endows the women with qualities that make them appear to be unsuitable for many male dominated skills and occupations. Not many women in Nigeria are mechanics, carpenters, civil engineer, etc. a closer look will reveal the fact that they are more men in women dominated roles than women in men dominated roles.

Men have been found to have slightly higher ability, usage, access, perceived usefulness and positive attitudes towards computers, (Canada, 2009 & Kwapong, 2009). Such indications bear relevance to the women's inability to deplete themselves of such restraints that have negative impact on their usage of ICT facilities. Despite this situation, the technological importance of ICT to women professionals cannot continue to be tied down to such deep rooted cultural biases that both society and the women's personal characteristics have propagated.

Institutions now incorporate ICT into every aspect of its day to day activities. Workers, women inclusive must be able to meet these needs by being skilled in ICT. Availability of ICT facilities has always been an inhibiting factor to ICT usage. However, in the midst of available ICT facilities it has been found that men have more ICT knowledge than their female counterparts (kwapong, 2009). This has been attributed to the fact that men are frequent ICT users than women (Canada, 2005).The male academics have more time than female academicians who have to struggle between three roles of child bearing, home keeping and academic work (Gowon, 2010). This can contribute to the female academician's lack of adequate higher ICT skills.

### **ICT Usage and Technophobia**

Women are handicapped in ICT usage in many ways including lack of funds; basic skills for acquisition of computer literacy and fewer women oriented programmes (Canada, 2009). In addition to the factors listed above, an individual's personal characteristics as well as his/her attitude have some established links to ICT usage and acceptability. Among these personal variables are issues such as technophobia (Rosen & Well, 1995; Rosen & Well, 1999 & Liebhardt, 2009). Technophobia has been defined as the fear or dislike of advanced technology or complex devices, especially computers (Wikipedia, 2009). Technophobia can cause anxiety and discomfort when a sufferer comes in contact with technology such as computers. Besides this, another type of technophobe is one who harbours feelings of unfriendliness toward the changes that technology has introduced into society (Stugelbauer & Milancovici, 2012). Some members of almost every society are uncomfortable with technology even where there is a reasonable evidence of integration of ICT facilities in all facets of life (Liebhardt, 2009). The issue is not the fact that people exhibit technophobic traits but the extents to which they exhibit such traits, can it hinder their effective use of technology, and efficiency in the workplace? Some identified causes of technophobia include: persons perceived ability to use a product successfully, computer experience, age, job requirements and computer availability (Rosen & well, 1995; Rosen & Well, 1999; Women in Dev., 2009).

Achuonye and Ezekoka (2011) identified the existence of technophobia among female undergraduates in Nigeria according to them technophobia will hinder effective participation of females in the ICT world.

Handicaps in ICT usage among women can reduce their efficiency in their respective professions this in turn can cascade into lowering the level of skilled manpower for economic development. What are the factors that prevent women from ICT use, and thus may hinder equity in productivity in the workplace? This study seeks to find out if there is a relationship between the perceived (traditional) role of women, technophobia and ICT usage among women professionals in Nigeria.

### **Purpose of the Study**

The study investigates gender differences in ICT usage among professionals in south-south Nigeria. Specifically the study:

1. Assess the relationship if any between gender and ICT usage.
2. Determines the relationship between the perceived (traditional) role of women and ICT usage among female professionals.
3. Examine the relationship if any between technophobia and ICT usage among female professionals.

### **Hypotheses**

1. ICT usage is not significantly related to gender among the academic professionals.
2. ICT usage among the female academia is not significantly related to their perceived role as women.
3. ICT usage among female professionals is not significantly related to Technophobia

### **Method**

The study an ex post facto, sought to find out the factors related to the ICT usage situation among female professionals in South-South Nigeria. The target population was male and female lectures in the 6 Federal universities in South- South Nigeria an estimated population of 8,500 (University Personnel Departments) The sample of 320 lecturers was selected by accidental sampling from three of the 6 universities which were purposefully selected for the study. Namely, the University of Uyo, the University of Calabar and the University of Port Harcourt.

The instrument used to collect the data for the study was a 4-point Likert scale of strongly agreed (SA), agreed (A), disagree (D), and strongly disagree (SD); titled “Professional’s ICT Usage Assessment Scale” (PIUAS). The instrument consisted of 18 items. The first 6 items solicited responses from the lecturers on their levels of agreement or disagreement with the statements on the influence of the perceived (traditional) role as women on their ICT usage. The last six items required the respondents to indicate their position on the statements on technophobia. A third section of the instrument solicited information on ICT usage of the respondents.

The instrument was validated with the assistance of experts in testing who made inputs on content of the instrument. The reliability of the PIUAS was determined by subjecting it to Cronbach’s Alpha test of internal consistency, an r value of .88 was obtained. Two hundred and eighty (280) out of the 320 questionnaires distributed were successfully filled and retrieved from the respondents. This represented an 87% return rate.

The chi-square statistics was used to test the null hypotheses at 0.50 alpha levels. The variables perceived role as women and Technophobia were dichotomized into low perception and high perception; and non-technophobic and technophobic respectively using a mid point cut –off score of 15. ICT usages of the respondents was also categorized into low, moderate and high ICT usage using cut-offs scores of 12 and below as low ICT usage; 13 to 18 moderate ICT usage and 19 and above as high ICT usage.

**Findings**

**Gender and ICT Usage**

**Table 1: Chi-Square Analysis of the Relationship between Gender and ICT Usage**

<b>Gender</b>	<b>Low ICT Usage</b>	<b>Moderate ICT usage</b>	<b>High ICT Usage</b>	<b>Total</b>	<b>X<sup>2</sup>cal</b>	<b>X<sup>2</sup>crit</b>
Male	9 <sup>a</sup> (16.29) <sup>b</sup>	38(42.86)	33(20.86)	80	30.462*	5.991
Female	48(40.71)	112(107.14)	40( 52.14)	200		
Total	57	150	73	280		

\* Significant at df 2 and P<0.05; a - observed frequency; b - expected frequency

The results in table 1 reveal a calculated chi-square value of 30.462 which is greater than the critical chi-square value to 5.991 at 2 degree of freedom (df) and 0.05 probability level. The null hypothesis was thus rejected implying that the ICT usage of the professionals was dependent on their gender.

**Perceived Role as Women and ICT Usage**

**Table 2: Chi-square Analysis of the Relationship between ICT Usage of Female Professionals and their Perceived Role as Women**

<b>Women Perception</b>	<b>Role</b>	<b>Low Usage</b>	<b>ICT Moderate Usage</b>	<b>ICT High Usage</b>	<b>Total</b>	<b>X<sup>2</sup>cal</b>	<b>X<sup>2</sup>crit</b>
Low Perception		20 <sup>a</sup> (28.8) <sup>b</sup>	35(32.4)	41(34.5)	96	7.807*	5.99
High Perception		40(31.2)	33(35.6)	31(37.4)	104		
Total		60	68	72	200		

\* Significant at df 2 and P<0.05 ;a - observed frequency; b - expected frequency

Table 2 reveals calculated chi-square value of 7.807 which is greater than the chi-square critical value of 5.991 at 2 df and 0.05 probability level. The hypothesis of no relationship between ICT usage and perceived role of women is rejected. This implies that there is a relationship between the perceived roles of women and ICT usage among the female lecturers.

**Technophobia and ICT Usage among Female Academia**

**Table 3: Chi-Square Analysis of the Relationship between ICT Usage and Technophobia among Female Professionals**

<b>Technophobia</b>	<b>low ICT usage</b>	<b>Moderate ICT usage</b>	<b>High ICT usage</b>	<b>Total</b>	<b>X<sup>2</sup>cal</b>	<b>X<sup>2</sup>crit</b>
Technophobic	39 <sup>a</sup> (30.2) <sup>b</sup>	51(57.7)	22(24.1)	112	7.934*	5.991
Non Technophobic	15(23.8)	52(45.3)	21(18.9)	88		
<b>Total</b>	<b>54</b>	<b>103</b>	<b>43</b>	<b>200</b>		

\* Significant at df 2 and P<0.05 a - observed frequency; b - expected frequency

The results in table 3 reveal that the value of the calculated chi square value was 7.934 which is greater than the critical X<sup>2</sup> value of 5.991 at 2 df and 0.05 alpha level. The hypothesis is rejected. There is thus a relationship between technophobia and ICT usage among the female professionals.

**Discussion  
Gender and ICT Usage**

The results show that male professionals use ICT more than their female counterparts. Table 1 revealed that ICT usage among these lecturers was not independent of their gender; from the frequency counts it can be observed that the men used ICT at moderate and high rates. While the women tended towards being low and moderate ICT users. These findings are in agreement with the findings of Kwapong, 2009; STATIS Canada, 2009; Rosen and Well, 1995 that men are generally more knowledgeable and better ICT users than their female counterparts. Gender disparity in ICT exposure and usage has been identified at the grass roots (Hatkin & Huyer, 2008) but these findings show that the disparity still exists up to higher professional levels.

**Perceived Role as Women and ICT usage**

Table 2 however; reveals that among the female lecturers their perception of the traditional role of women as homemakers was related to their ICT usage. In table 2 it can be observed that the women who had a strong perception of themselves as homemakers used ICT much less than the women who did not have low perceptions of their traditional role. This also is an agreement with Habeeb (2001) Piwuna (2009) who feel that women’s self concept need to be boosted through role models in order to improve their ICT capabilities and usage. These roles are real in the life of the women folk. No matter the professional level a woman belongs her effective contribution to the

organization will largely depend on her ability to balance work and home duties. Thus, women will normally require going an extra mile to update their ICT skills and use them effectively in her job.

### **Technophobia and ICT Usage among Female Academia**

ICT usage among the female lecturers was not independent of technophobia as revealed in table 3. The female lecturers who exhibited technophobia used ICT less than those who did not exhibit technophobia. This implies that technophobia is related to the frequency of ICT usage among them. This also agrees with Women in Development (2009); STATIS Canada( 2009) and Achuonye and Ezekoka (2011) that technophobia in developing countries and among women can affect ICT competency and usage. These findings depict the inequality existing between male and female professionals in ICT usage, which can undermine the female professional's efficiency in the work place. This inadvertently will affect the level of human capacity building among African nations.

### **Conclusion**

Female academia use ICTs less than their male counterparts even at high professional levels. And these low rates of ICT usage are related to their perception of themselves as home makers and technophobia, the fear of technology. This can decrease their effectiveness at the work place and their contributions to their nation's productivity and economic development.

### **Recommendations**

The study recommends that:

1. School children are exposed early to the use of ICTs such as computers. These will curb the likely hood of these children becoming technophobes.
2. Women who have made great achievements in the area of information and communication technology come together under the auspices of non-governmental organizations and serve as role models/resource persons to those who are still battling with ICT acceptance and competence.
3. Computer training programmes should be organized with gender bias to provide women with better opportunities to improve on their ICT skills. These programmes can be established through self-help efforts by women groups.



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