

DIMENSIONS OF TECHNOPHOBIA – TECHNOPHILIA AMONG SENIOR STAFF MEMBERS OF THE UNIVERSITY OF CALABAR, NIGERIA

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ABSTRACT

The fact that the world is now a global village has become a cliché, yet many members of this village seem to be reluctant to get involved with Information & Communication Technology (ICT), the fastest and best means of communication in this world comity. The study therefore ascertained the level of ICT interaction among senior staff members of the University of Calabar (UNICAL) and thereby determined their levels of technophobia. Using the ex-post facto design, 4 hypotheses were generated. Through stratified random sampling of 9 faculties/division comprising a total population of 1894, 290 respondents were sampled. Data were collected using a questionnaire consisting of Background Information Scale (BIS) and Level of Interaction with Modern Information & Technology Scale (LIWICTS). Result indicates that there is a significant level of technophobia among senior staff members of UNICAL. It was recommended among other things that university staff members either accept technological changes and move with the times or remain clogs in the wheel of progress and perpetual technophobes.

KEYWORDS: Technophobia, Technophilia, Information and Communication Technology (ICT).

INTRODUCTION:

As the global village of the 21st century continues to evolve, the technological highway is further widened, with tons of information rolling past. However, while some individuals are riding high on it, others are swept off, while many are just mere spectators. There is always something new in the Information Technology sector, be it i-pod, blackberry, mp3, twitter, blog, facebook, etc and many are finding it difficult to keep up with the pace. Yet, others are completely lost, anxious and frightened. Technophobia refers to the fear, dislike distrust or reluctance to use advanced technology or complex electronic devices, especially computers; while the attachment to and love of technology on the other hand, is referred to as technophilia (Wikipedia, 2009). Such fears and reluctance may be irrational in some cases, in others, they may be justified.

Admittedly, technology can be challenging at times, especially in developing countries, because of the numerous technological glitches experienced. However, for

the experienced technology users, these are not problems at all. But for the novices, they look insurmountable (Wezel & Kansas, 2009). This may explain why many people in the society including university teachers and non-teachers alike, tend to be reluctant towards the use of advanced technology. Elizabeth (2010) reiterated that the general fear and inability to use technology can create anxiety and frustration in those who have duties that require interaction with technology which they may feel uncomfortable using.

Suffice it to say that most technophobes realize that technology has come to stay and that the environment in which they live is changing and as such desire to master, at least, the basics of technology in order to be functional members of the global village. Nonetheless, they suffer self doubt, anxiety and often feel insecure and obsolete (Bilsborough, 2009). Some even fear that they will be phased out of their jobs because of their obsolescence (Elizabeth, 2010).

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Indeed, the world is changing rapidly, too rapidly for many that they are rather overwhelmed. According to Shankar (2009), with technology advancing by leaps and bounds, technophobia has assumed a pandemic proportion, age, gender, culture and background, notwithstanding. In most cases, though, technophobes belong to older generations who were not brought up playing with mobile phones and computer games; they have never sent text message or heard of an i-pod (Bilsborough, 2009). Men tend to be more inclined to electronic toys than their female counterparts who would rather invest on more pressing necessities. Hashim (2008) posits that more men have computers of their own and are more familiar with the gadget than women. Nature of job and academic qualification are also considered to be factors that relate to technology anxieties (Rosen, 2001). Staff members in the sciences may be more disposed to technology than their counterparts in Arts and Humanities since science and technology are closely related.

Nonetheless, innovations in the business of education have created the necessity for technophilia among all its stakeholders, especially university staff members. Open University Correspondence and Distance Learning, require e-teaching and e-scoring. Attending conferences abroad, accessing journal articles and sending articles for publication are also some imperatives for technology compliance by university staff. In essence, technology has deeply permeated the work environment of the university staff members that there should be a lot more of technophiles than technophobes.

Statement of Problem

We live in an information age and technologies are the central focus of this age. The world has become a global village and education is placed in a key position. Computers are devices that are present in almost all day to day activities and in all spheres of our lives. Computer literacy, at the very least, is therefore imperative for the entire human race, in order to function effectively in this global village. This is especially pertinent for those in the educational sector who have to impart knowledge and to rub minds with others in the comity of nations. However, it does seem that a good number of people in Nigerian university settings are yet to catch up with other members of the human race, technologically. Many are still technologically challenged, be it in the use of Laptops, Desktops,

Blackberries, Mobile phones, I-pods and even little things like remote controls for appliances in the home. Some own these gadgets but a good number of them are under-utilized, not used at all or are taken over by their children or other younger people around. In the light of this circumstance, the problem of this study may be stated as follows;

1. What is the relationship between technophobia and age of senior staff members of the University of Calabar?
2. Do the staff differ in their levels of technophobia on the bases of gender and job types?
3. Do senior staff of varying areas of specialization have differing levels of technophobia?

Purpose of Study

The main purpose of this study is to determine the level of interaction with ICT devices, especially computer, among senior staff members of University of Calabar. Derived from the above is the establishment of technophobic behaviours among the staff.

Hypotheses

1. Age is not significantly related to technophobia among senior staff members.
2. Senior staff members do not significantly differ in their levels of technophobia, based on gender.
3. Senior staff members do not significantly differ in levels of technophobia based on their job types.
4. Senior staff members do not significantly differ in levels of technophobia based on their varying areas of specialization.

Methodology

The study was carried out in the University of Calabar (UNICAL), located in Cross River State of Nigeria. Using the ex-post facto design and stratified random sampling technique, a sample size of 290 was derived from 9 faculties/divisions with a total population of 1894. The sample consists of 189 males and 101 females; 200 academic and 90 non-academic staff.

The instrument comprised a structured questionnaire which had two parts, Background Information Scale (BIS) and Level of Interaction with modern Information and Communication

Technology Scale (LIWICTS). BIS consist of nine items that sought basic background information from staff. Items included respondents department, faculty, sex, age, type of job, area of specialization, ownership of computer, training in computer and contentment with level of interaction. Respondents were asked to fill in or tick the appropriate response as the case may be. LIWICTS, on the other hand, consisted of twenty-three items on statement relating to modern ICT use. Items include, frequency of use of computer, search for information on the internet, use of word processor, ability to save information on flash, usage of twitter, blog, Skype, Yahoo messenger, blackberry and others. Respondents were to indicate their level of interaction by ticking the most appropriate response column. Responses included *excellent, good, fair, poor, very poor* and *none at all*.

The items of the instrument were thoroughly scrutinized by experts in measurements and those in computer training in order to establish its face validity. Reliability was established by administering the instrument on 50 members of staff of the university, who did not take part in the final study, ensuring that each age brackets, sex and types of jobs performed are proportionately represented. After proper

coding, the Cronbach Alpha reliability estimate method was adopted to establish its internal consistency. The reliability so derived was 0.69 for the BIS and 0.71 for the LIWICTS.

Data Collection

The instrument was administered to individual staff members in their various offices. Each was allowed a period of 48 hours to give them enough time to fill it out. The researcher went back to pick them up. Responses were duly coded for the analysis.

Statistical Analyses: The data collected were analyzed using Pearson Product Moment Correlation, Independent t-test and one-way Analysis of Variance (ANOVA). Summaries of results are presented in the following tables.

Results:

Hypothesis 1:

Age is not significantly related to technophobia levels among senior staff members.

Pearson Product Moment Correlation was employed to test the hypothesis. The results of the data analysis are shown in Table 1.

**Table 1
Pearson Product Moment Correlation of age and technophobia Scores (N = 290)**

Variables	\bar{X}	SD	R	Sig. level
Age	49.531	10.245	-.412*	.000
Technophobia	66.255	25.354		

*P<.05 df = 288

The results in Table 1 indicate that the calculated r value is -.412. This implies a negative relationship between age and technophobia among senior staff members. That is to say, the older the senior staff members, the lower the level of ICT interaction and vice versa. In other words, the older the senior staff members the higher the level of technophobia and the younger the senior staff member, the lower the level of technophobia. Since the significance level of the calculated r value (.000) is less than .05, it means that the calculated r is

statistically significant at .05 significance level and 288 degrees of freedom. The null hypothesis is therefore rejected.

Hypothesis 2

Senior staff members do not significantly differ in their levels of technophobia, based on gender.

The hypothesis was tested using independent t-test statistics. The results are shown in Table 2.

Table 2

Independent t-test comparison of the technophobia levels of male and female senior staff members

Variables	N	\bar{X}	SD	t	Sig. level
Male	189	67.698	25.736	1.328*	.185
Female	101	63.555	24.521		

* $P > .05$ df = 288 Critical t = 1.96

As shown in table 2, male senior staff members have a higher mean ICT interaction scores ($\bar{X} = 67.698$, $SD = 25.736$) than their female counterparts ($\bar{X} = 63.555$, $SD = 24.521$). However, the observed difference in mean technophobia scores is not statistically significant ($P > .05$). Since the calculated t-value, 1.328, is less than the critical t-value of 1.96 at .05 significance level and 288 degrees of freedom, the null hypothesis is therefore not rejected.

Hypothesis 3

Senior staff members do not significantly differ in levels of technophobia based on their job types.

Since there are two job types (academic and non-academic), independent t-test was used to test the hypothesis. The results are shown in Table 3.

Table 3

Independent t-test comparisons of the levels of technophobia of academic and non-academic staff members

Job Type	N	\bar{X}	SD	t	Sig. level
Academic	200	74.260	23.013	9.073*	.000
Non-academic	90	48.467	20.958		

* $P < .05$ df = 288 Critical t = 1.96

From the result in the table, the academic senior staff members have a higher mean score on ICT interaction ($\bar{X} = 74.260$, $SD = 23.013$) than the non-academic senior staff members ($\bar{X} = 48.467$, $SD = 20.958$). In other words, non-academic staff have higher level of technophobia than the academic senior staff members. Since the calculated t-value of difference in mean scores, 9.073, is far higher than the critical t-value of 1.96 at .05 significance level and 288 degrees of freedom, it means that there is a statistically significant difference in

technophobia levels of academic and non-academic senior staff members. The null hypothesis is therefore rejected.

Hypothesis 4

Senior staff members do not significantly differ in their levels of technophobia based on their varying areas of specialization.

A one-way Analysis of Variance (ANOVA) was used to test the hypothesis. The results are shown in Table 4.

Table 4
Means, Standard deviations and one-way ANOVA of technophobia among senior staff members of various areas of specialization

Area of Specialization	N	\bar{X}	SD
Sciences	41	87.439	15.638
Arts	57	54.421	21.107
Medical Sciences	48	83.354	14.473
Education	44	49.773	22.924
Social Sciences	44	62.431	23.146
Agricultural Sciences	26	62.346	28.028
Law	22	69.546	27.540
Management Sciences	8	54.750	25.354

Source of variation	Sum of squares	df	Mean squares	F	Sig. level
Corrected model	54706.784	7	7815.255	16.815	.000
Intercept	865992.858	1	865992.858	1863.198	.000
specialization	54706.784	7	7815.255	16.815*	.000
Error	131070.333	282	464.788		
Total	1458804.000	290			
Corrected Total	185777.117	289			

*P<.05 df = (7,282) Critical F = 2.05

The result in the table shows that senior staff members in the Sciences have the highest mean scores on ICT interaction level (\bar{X} = 87.439, SD = 15.633) followed by those in Medical Sciences (\bar{X} = 83.354, SD = 14.473) and others while those in Education have the least mean scores (\bar{X} = 49.773, SD = 22.924). The calculated F-value is 16.815 and since it is greater than the critical F-value of 2.05 at .05 significance level and (7,282) degrees of

freedom, it means that the mean ICT scores of senior staff members of various areas of specialization differs significantly (P<.05). This implies that levels of technophobia differ based on areas of specialization. Thus, the null hypothesis is rejected.

To determine the points of difference, a post hoc analysis using Fishers LSD was performed. The results are shown in Table 5.

Table 5
Post hoc comparison of mean scores of senior staff members of various areas of specialization using Fishers' LSD

Areas of specialization	1	2	3	4	5	6	7	8
1 Sciences	87.439 ^a	33.018 ^{*b}	4.085	37.666*	25.007*	25.093*	17.894*	32.689*
2 Arts		54.421	28.933*	4.648	8.011	7.925	15.124*	.329
3 Medical sciences			83.354	33.581*	20.922*	21.008*	13.809*	28.604*
4 Education				49.773	12.659*	12.573*	19.773*	4.977
5 Social Sciences					62.432	.086	7.114	7.682
6 Agricultural Science						62.346	7.199	7.596
7 Law							69.545	14.795
8 Management Sciences								54.750

Note: a = Mean scores are along the principal diagonal

b = Difference between mean scores are above the principal diagonal

The result in Table 5 indicate that there are significant differences in mean ICT interaction level scores for Sciences and Arts; Sciences and Education; Sciences and Social Sciences; Sciences and Agriculture; Sciences and Law; Sciences and Management Sciences; Arts and Medical Sciences; Arts and Law; Medical Sciences and Education; Medical Sciences and Social Sciences; Medical Sciences and Agriculture; Medical Sciences and Law; Medical Sciences and Management Sciences; Education and Social Sciences; Education and Agric. Science; Education and Law.

DISCUSSIONS

The results of hypothesis one point to the fact that there is a significant but negative relationship between age of senior staff members and their level of technophobia. This means that the older the staff member, the lower the level of interaction with ICT and the younger the staff member, the higher the level of interaction. This necessitated the rejection of the null hypothesis. Implicitly, older staffers are more of technophobes while younger ones are more of technophiles. This could be explained by the fact that technology is new, complex and time consuming; the older generation hardly have the patience to deal with it. It is rather difficult to teach an old dog new tricks (Bilsborough, 2009). It is more like a generational thing. The older people were not brought up playing with computer games and mobile phones, like the younger ones. This tend to corroborate the findings of Hogan (2006) that older people seem to be concerned about the amount of time people spend with technology, which is perceived to be wreaking destruction on social relationships and society. Also, reluctance to use ICT by older people may have to do with their concern that the world is changing rapidly, too rapidly for many older people, who fear the changes taking place and long for a simpler time (Rosen, 2001). Complexity of ICT may be another plausible explanation for technophobia amongst older people. Many older clientele feel overloaded by the complexity of technology-related products which renders such consumers less open to them and may even lead to an aversion or anxiety towards these products (Sinkovics, Stottinger, Schlegelmilch, & Sundaresan, 2002).

The result of hypothesis two revealed a non significant relationship between gender and technophobia levels of senior staff members of

which caused the hypothesis to be rejected. However, there is an observed difference in mean ICT interaction score, with males having a higher mean score ($\bar{X} = 67.698$, $SD = 25.736$) than the females ($\bar{X} = 63.555$, $SD = 24.521$). Though not statistically significant, there is an indication that females are more technophobic than males. This may be explained by the fact that females are less inclined to technologically related gadgets than men. Moreover, females may rather spend their resources on more personal and pressing accessories and necessities than electronic gadgets. The study of Agnetha-Broos (2005) indicated that females have more negative attitude toward computer and greater computer anxiety than males. The research of Hashim (2008) also indicated the existence of a gender gap in computer use. The study indicated that males spend more time using the computer and more interest in computer related activities than females. Moreover, men and boys more than women and girls have computers of their own and know how to use them (Jackson, Zhao, Witt, Fitzgerald, Von Eye & Harold, 2009).

The results of hypothesis three shows a significant difference in levels of technophobia based on types of job, hence the null hypothesis was rejected. The indication is that academic senior staff members have higher ICT interaction mean score ($\bar{X} = 74.260$, $SD = 23.013$) than their non-academic counterparts ($\bar{X} = 48.467$, $SD = 20.958$). This means that non-academic senior staff are more technophobic than their academic counterparts. This finding is not surprising since for the academic staff ICT is part of the educational tool necessary for teaching, research, demonstration in conferences and workshops, for record keeping etc. On the other hand, computer and other ICT, may be less consequential to the non-academics since majority of them can perform their jobs effectively without reference to ICT. Sinkovics et al (2002) stated that necessity and convenience are crucial factors of technophobia hence those who do not see the necessity for ICT may be very reluctant to use it. The findings of David & Lizlee-Kelly (2003) also indicated that technology anxiety correlates with demographic variables including occupations and that such variables provide insight of the consumers' psychological and attributional factor. Moreso, as technology becomes increasingly complex and difficult to understand, more people especially those who

deem it irrelevant, are more likely to harbour anxieties relating to their use of modern ICT (Rosen, 2001).

The outcome of hypothesis four indicates significant difference in levels of technophobia based on areas of specialization. Staffers in the sciences tend to have higher levels of ICT interaction ($\bar{X} = 87.439$) followed by those in Medical Sciences ($\bar{X} = 83.354$) and others. Staffers in Education are indicated to have the least mean ICT score ($\bar{X} = 49.773$). This implies that staffers in the Sciences and Medical Sciences tends towards technophilia while those in Education tend toward technophobia. A plausible explanation could be that since science and technology are closely related, it is far easier for those in science and allied areas to interact readily with ICT. It is more like a familiar territory and as such have the interest, value, aptitude, ability and acumen for it. On the other hand, for those in Education and the Humanities, ICT is more of an unfamiliar and uninteresting territory for which they hardly have the ability or aptitude. Indeed some of these senior staffers were the same people who were intimidated out of their Mathematics and Science classes earlier in their secondary school days. Hence, ICT interaction at this stage could be daunting and overwhelming. In essence, aptitude and ability count. According to Ezewu (1987), every learner brings certain variables to the learning situation and these include aptitude, ability to comprehend, age, sex, attitude and motivation which become very important factors in the learning process. Also, the occupational theory of Vroom in Onyejiaku (1987) states that behavior in the work place is a function of the interaction of such as ability, values, expectancies and role demands as well as the general environment.

CONCLUSION

In this study, the maximum ICT level interaction score is 115 which is excellent reflecting technophilia while the minimum score is 23 which is very poor reflecting technophobia. However, the highest mean ICT interaction level score which came from senior staff member in the sciences was 87, being fairly technophilic, while the lowest mean score 49 which is poor and so technophobic, came from education. The indication therefore is that the generality of senior staff members in this university tend to be technophobic. This is rather unfortunate considering the fact that this is a university

environment, the citadel of learning, the reservoir and transmitter of knowledge which should be abreast of the innovations and developments of this jet set, technological age of the global village.

RECOMMENDATIONS

1. University staff must accept the reality of change in an age of technology. They must proactively adjust to these changes through acquiring computer literacy skills that would enable them move with the time.
2. Not only do technophobes need to acquire computer literacy skills, they must also acquaint themselves with the various changes that sweep through the world of computers. They may, for instance, peruse reading help articles on a regular basis, watch instructional videos and read computer user magazines and digests. These would help ensure good familiarity with computers and other elements associated with information technology.
3. Staff having unusual levels of technophobia should be referred to psychologists who would apply one of a variety of therapeutic techniques including desensitization training to assist such staff.
4. Technophobes desirous of embracing new technologies need to be taught by instructors with a depth of understanding of their problems. Such instructors should be persons who are closer in age to the technophobes, persons capable of communicating psychologically the message, "if I can do it, you too can".

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