

## Information Communication Technology in Academics: How far with Elderly Nigerian Academics?

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### Abstract

*The use of some information communication technology applications (ICT) by elderly (>50 years) Nigerian university lecturers (academics) was investigated using discussion and structured questionnaire containing a scale for rating the use of selected commonly used ICT applications. Going by the mean score (56.5±9.0 vs.110 max. points), an average ICT use was indicated, but below average (<50% max. point) when mode/median values (49/51) were considered. Compared by t test, ICT use by younger (<50 years) academics was better than by elderly academics (P=0.048). Academics aged 50-60 years and those with shorter service years (≤15 years) used ICT tools better than their older (≥61; t, test; P=0.005) or longer serving (≥16 years; P=0.000) colleagues. ICT use was significantly better with men (47.0±7.0 vs. 58.2±8.0, P= 0.020). It can be concluded that ICT use by elderly academics is unsatisfactory and likely to retard ICT diffusion given their academic leadership role.*

**Keywords:** ICT, elderly academics, Gender.

### 1.0 Introduction

Information communication technology (ICT) refers to the use of computer technology and its associated software, audio-visual and telecommunication equipments (including mobile phones) to send, receive, store and even manipulate information for desired objectives. These objectives include, but not limited to business, government services, organisations, schools and research. It also includes the worldwide network of computers otherwise called internet. This technology is increasingly shaping the world to the extent that economies of the developed countries depend on it. It has turned the world into what is now called global village. The use of ICT for learning is increasingly becoming the order of the day. Its impact on students was captured by the report of Passey, Rogers, Machell, McHugh and Allaway (2003). These researchers investigated the effects of information and communication technologies on pupil motivation and concluded that ICT had motivational impact on learning processes including research. Thus primary, secondary and university teachers need to be knowledgeable in ICT in order to use it for teaching and research. However, a number of factors affect teachers' successful use of ICT. For example teachers who lack confidence in using computers try to avoid them (Russel & Bradley, 1997). Other factors include access to computer (Muntaz, 2000), availability of proper technical support and training in the use of hardware and soft ware (Fabry and Higgs, 1997; Pelgrum, 2001), resistance to change (Cuban, Kirkpatrick, & Peck, 2001) and cultural perceptions (Albirini, 2006).

The barriers enumerated above tend to be more pronounced in a developing country like Nigeria where the use of ICT only began to gain attention from the year 2000 and mainly in the telephone communication industry. For example, telephone lines that was 400,000 in pre-2000 years for a country of over 150 million people rose to 90.5 million mobile telephone lines by 2011 (Federal Government of Nigeria, 2012). The Government of Nigeria realised this hence it set up a Ministerial Committee in August, 2011 to harmonise policies and function in the different ICT industries in Nigeria (Federal Government of Nigeria, 2012). Although the impact of ICT is now being felt in Nigeria, it is mainly in libraries and higher institutions where computer and internet facilities are on the increase, but with problems of funding and technical support (Krubu & Osawaru, 2011; Ogunsola & Aboyade, 2005). It is common to see young people and students patronising cybercafés to use internet facilities on campuses and in the cities of Nigeria. Elderly people including academics are rarely found in such places. It can be argued that the elders remain in their homes or offices to use ICT, because of the availability of cell phones and lap top computers with internet facility.

However, this requires empirical substantiation given the observation that Nigerian universities are rated poorly in the web ranking of world universities; and this has been partly attributed to their poor state of ICT. An empirical study of the extent of awareness and use of ICT by elderly Nigerian university lecturers is important, because they provide academic leadership particularly in research. There is paucity of information on the use of ICT by lecturers in Nigeria hence such a study may provide useful information for the formulation of policies aimed at boosting ICT applications. The study therefore, focused on the extent of the use of computer software and the internet by elderly lecturers ( $\geq$  middle age) in Nigerian universities.

## **2.0 Method**

### **2.1 Data Source**

The data for the study was obtained from elderly lecturers above the age of 50 randomly selected from 10 Nigerian universities using structured questionnaires. A total of 500 questionnaires was distributed at 50/university out of which 339 were returned with all the questions attended to correctly. The socio-demographic variables considered were age, gender, length of teaching/research service and training in ICT. For the purpose of comparison the same questionnaire was administered to 200 randomly selected younger lecturers (<50 years).

### **2.2 Measures**

A list of commonly used ICT tools (Table 1) was drawn up after interactive discussions with lecturers and the ICT departments of the universities. Interactive whiteboards were rare hence it was not included. The respondent lecturers were requested to rate their usage of the ICT tools listed in Table 1 on a scale of 10: 1 (I do not use it) to 10 (I always use it). The questionnaire instrument was also complemented with discussion. The points scored by individual respondent from each of the ICT tools as shown in Table 1 was added up to give the usage score. The maximum available point stood at 110. High scores indicate high frequency of ICT usage. For the purpose of comparison scores were computed separately for academic and non-academic (general) usage.

### **2.3 Data analyses**

Descriptive statistics (Mean/SD) was used to analyse the data while *t* test was used to identify significant differences within each of the socio-demographic variable. The mode and median values were identified only with the scores of all respondents (without the socio-demographic variables) for the purpose of clarifying the central tendency. The *t* test was used to compare the usage of the ICT tools by the elderly lecturers with that of the younger lecturers. Comparison of the differences in the use of ICT for academic and non-academic (general use) purposes as listed in Table 1 was by graphical illustration.

## **3.0 Result**

The socio-demographic variables of the sample of elderly lecturers are shown in Table 2. That of the younger lecturers was not considered necessary, because their ICT usage data was for comparison only. The results indicate average use of ICT tools as shown by the mean score for all elderly respondents in Table 3, which was above 50% of the maximum point. However, the mode and median values were below 50% of the maximum point regarded as average and they stood at 49 and 51 points, respectively. There was significant gender difference in the use of ICT with the male lecturers scoring higher (Table 3). The younger respondents among the elderly lecturers used ICT tools significantly better than their older colleagues just as those with lesser years of academic service did (Table 3). Expectedly, respondents who participated in ICT training workshops scored very high (Table 3). The mean ICT usage score for younger lecturers (<50 years) stood at  $64.8 \pm 7.0$  and analysis by *t* test showed that it was significantly higher ( $P=0.048$ ) than the score ( $56.5 \pm 9.0$ ) of their older colleagues ( $\geq 50$  years) presented in Table 3. The findings as presented in Figure 1 further shows that the non-academic use of ICT tended to be higher than the academic use irrespective of the socio-demographic variables.

## **4.0 Discussion and Conclusion**

Going by the findings, the use of ICT tools particularly for academic purposes by elderly Nigerian academics in the sample studied cannot be said to be satisfactory, because of the average score. In fact the high score by the few respondents (44 out of 339) with exposure to ICT training programmes elevated the mean score thereby making it look average as indicated by the mode and median values. It was only from the year 2000 that serious attention began to be given to ICT in Nigeria and mainly in the area of provision and installation of equipments (FGN, 2012).

The Government of Nigeria acknowledged that with a population of 160 million people and many schools, serious attention needs to be given to training in ICT (FGN, 2012). Apart from inadequate training, the elderly lecturers tend to be reluctant to learn something new at their age. For example one of the respondents said “I can’t learn how to use left hand at old age” while another retorted “I don’t even remember I have a lap top”. A 65 year old lecturer questioned: “why do I have to bother myself doing statistical analyses, prepare power point presentation or draw graphs with the computer when my children can do it or I pay someone to do it if they are not available?” These comments tend to reflect the feelings of many of the respondents. There is also suspicion of the ICT operators. For example some of the lecturers would not engage in internet or cell phone banking, because of the fear of fraud and lack of confidence in operating the internet or cell phone. One lecturer said “It is simpler for me to walk to the bank and cash my cheque or send my kid instead of pressing one wrong button and my money is gone!” Lack of confidence in the use of ICT applications has been reported to be one of the barriers to the use of ICT tools (Russell & Bradley, 1997).

The older and longer serving lecturers tend to use the ICT tools less frequently than the younger colleagues. This is in contrast with the report of Becta (2004) which found little evidence to support the view that age affects levels of teachers’ use of ICT and the report of Bradley and Russell (1997) that the younger lecturers are no more likely to use ICT better than their older and more experienced colleagues. The investigation by Bradley and Russell (1997) was conducted in the developed part of the world where ICT is popularly used unlike developing countries like Nigeria that is just starting. However, discussion with some of the young lecturers revealed that the need to “publish or perish” made it important for them to learn how to use ICT in order to advance in their academic career. They pointed out that the internet is now a major source of information for research and even sending manuscripts through the online system for publication. They also pointed out that their senior and elderly colleagues may have reached the peak of their academic career and do not need to “publish or perish”.

The significant gender difference observed in the study is in line with the findings of another study (Bradley & Russell, 1997). Women have special responsibility to children and the elderly people hence they have less time for many issues outside their household including ICT. Another factor is the problem of attracting women to science and technology studies and this may have a “carry-over” effect on ICT use.

Compared to developed countries investment in ICT in developing countries is relatively low (Indjikian & Siegel, 2005). ICT induces changes in work force in favour of highly skilled workers hence policy makers in developing countries must address the issue of skill deficiencies (Indjikian & Siegel, 2005). Thus investing in ICT infrastructure without human capacity building will be an exercise in futility. Human capacity building is one of the challenges facing ICT programmes in developing countries and can only be addressed through education. Unfortunately, finding senior academics reluctant to use ICT is a setback given the report that ICT diffusion did not enhance education in developing countries (Baliamoune 2002).

In conclusion, the elderly and experienced Nigerian academics tend to be reluctant to use ICT applications and this is a barrier to ICT diffusion development, because they provide academic leadership. There are other barriers to ICT use that was not covered in this study. They include access to computers and internet, availability of training programmes, fund and infrastructure maintenance and technical support. For example frequent ICT infrastructure failure is likely to discourage the elderly academics who are already reluctant to learn new things at old age. Further investigation in these areas are needed in order to provide more useful information that will help education authorities to enhance ICT use by teachers, not only in the university, but in primary and secondary schools as well.

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**Table 1: The Information Communication Technology (ICT) tools assessed**

Useful for academic work*	General use**
Microsoft office word	Text messages
Microsoft Excel (plotting graphs)	Electronic mail (E-mail)
Statistical packages (e.g. SPSS)	Internet banking
Online manuscript submission	Cell phone banking
Online manuscript review	
Presentational software (e.g. power point)	
Internet search machines (e.g. Google scholar)	

Maximum available points=110 i.e. \*70 + \*\*40

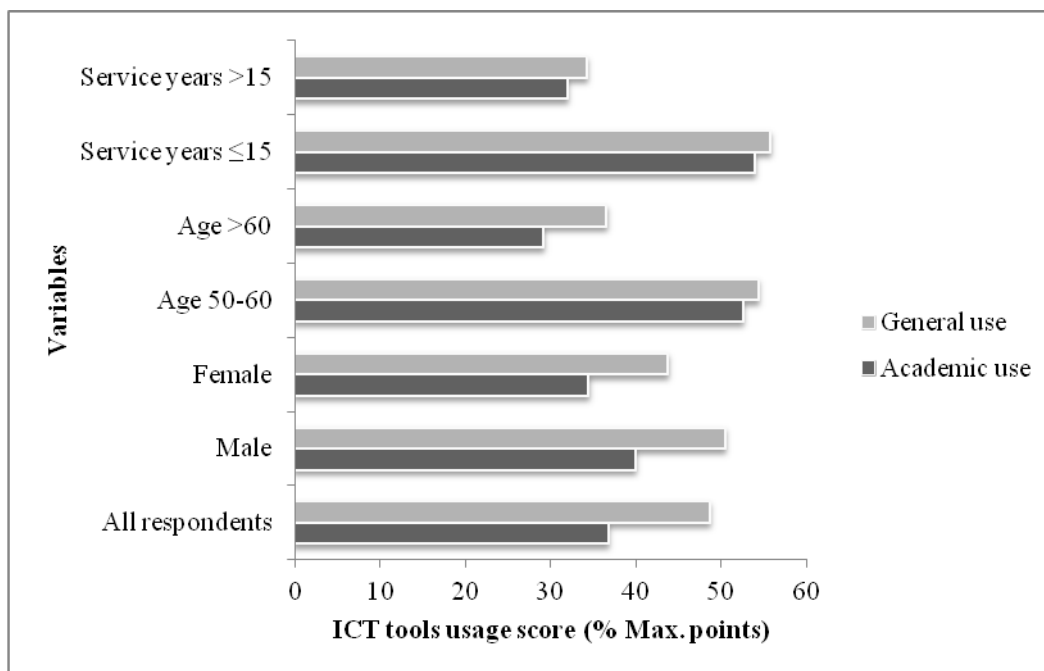
**Table 2: Socio-demographic Characteristics**

Variables	Respondents	
	N=339	%
Gender		
Male	237	69.9
Female	102	30.1
Age		
50-60	241	71.0
>60	98	29.0
Service (teaching/research) years		
≤15	185	54.6
>15	154	45.4
ICT formal training		
Yes	44	13.0
No	295	87.0

**Table 3: Analyses of the use of ICT tools by elderly academics**

Variables	ICT usage Score		% of Maximum Points
	Mean	SD	
All respondents	56.5	9	51.3
Gender			
Male	58.2	8	53.0
Female	47.0	7	42.7
* <i>P</i>	0.02		
Age			
50-60	61.8	7	56.2
>60	44.8	8	40.7
* <i>P</i>	0.005		
Service years			
≤15	68.0	6	62.5
>15	39.5	4	36.0
* <i>P</i>	0.000		
ICT formal training			
Yes	84.0	9	76.7
No	26.5	5	24.1
* <i>P</i>	0.000		

\*Significant difference by *t* test. See Method and Table 1 for maximum points.



**Figure 1: Comparison of ICT use for academic and non-academic activities. (See Method and Table 1 for maximum points).**