INFORMATION COMMUNICATION TECHNOLOGY IN ACCOUNTING EDUCATION: CHALLENGES AND PROSPECTS

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Abstract: This paper focuses on Information Communication Technology (ICT) in Nigerian accounting education in higher institutions: challenges and prospects. The objectives of this paper include identifying the problems and prospects of ICT in accounting for higher institutions. The paper employed t-test, ANOVA and Fisher's Least Significant Difference (LSD) comparison test for analysis statistically. The paper found out that the graduates of accounting have low access to ICT tools and those who dare into it make a lot of difference in the labour market. It was recommended that the government should show more commitments to ICT in accounting to help build strong financial base of the economy now everything is globally driven by ICT.

Keywords: Information Communication Technology (ICT), Accounting Education, and Labour Market.

Introduction

Higher education is in travail, riddled with crises of various dimensions and magnitudes, and saddled with a number of multi-faceted problems resulting to lack of goal attainment including ICT in accounting. These problems have combined to suggest that everything about the system is at variance including issues in the labour market where test of quality and performance of our educational products may be determined.

In the face of this seeming failure in all facets of education in higher institutions to meet up with their roles including the labour market expectations in employment terms, there is the need to redesign accounting programmes in higher education to incorporate functional courses that will equip the graduates with the necessary skills for employability. Thus; Abaribe (2002), observed that

"Our present education has been consumptive instead of productive, we teach our youths to master their subjects to Nigerian needs in order to enable our school leavers and graduates solve the fundamental problems of livingour education has been barren, so that very soon we shall face the problem of having many "educated" people but none qualified to do the work needed for the welfare of the people".

In this regard therefore, their access to information and communication Technology (ICT) becomes very essential. According to Obanya (2002), ICT is a broad term that has

to do with the harnessing of process, the methods and the products of electronic and communication – related technologies (and other related resources in today's knowledge – driven society) for enhancing, the productivity, the spread and efficiency of a set of programmed activities geared towards the achievement of clearly determined goals. Thus, it would enable the students to acquire functional skills, making them relevant in the present realities in global economy.

Statement of the Problem

According to Adeosun (2010), there are over 150 million people in Nigeria, also an active member of E9 and among the "eleven (11)" group of potentially endowed nations with a range of ambitious goals of several global and national frameworks, seeking to promote the fundamental right of her citizens to quality education. However, at the E9 meeting held in Indonesia in April 2008, it was revealed that Nigeria is one of the only two countries that were at the risk of not meeting the targets of Education For All (EFA), because the quality of teaching and learning in our schools remain a significant challenge. The Millennium Development Goals Report (UN 2005) acknowledges that quality assurance in education is yet to be adequately addressed in terms of teachers, curricula, teachers' support and teaching and learning materials. Igbuzor (2006) noted that the process of learning and teaching do not lead to production of analytical, critical and engaging products; the teachers do not have the competence and skills to use active pedagogies, and that the content of education in Nigeria is irrelevant to the needs of prospective job seekers. Various studies conducted in Nigeria have also shown clearly that there are low academic achievements among pupils in literacy, numeracy and life skills (Lawal, 1995, Aderinoye 2002 and Afe, 2006). There are also proposal on how ICT should be deployed for effective acquisition of these skills (Haddad, 2002; Salawu, 2008). In all these, has Nigeria been able to recognize ICT roles in her educational policies and therefore committed to its practice and implementation, especially in the context of achieving among others development of skills - numeracy and life skills translating into ICT in accounting? This paper treats ICT in accounting for Nigeria higher institutions: challenges and prospects.

Hypotheses

- a. Ho₁: Graduate of accountancy access to ICT tools is not significantly low.
- b. Ho₂: There is no significant difference between graduate of accountancy who have access to ICT tools and those who do not in their labour market preparations.
- c. Ho₃: There is no significant influence of accountancy students' level of access to ICT on their labour market preparations.

Literature Review

A lot of searchlights have been cast in discovering the panacea to high unemployment among higher institution graduates and moreover, accounting graduates since it became a national phenomenon with the economic down turn some years back. One of These searchlights has beamed on ICT and recognized it as having the potentials to preparing the students for the labour market, especially in this knowledge- driven era. For instance, one ICT area related to Accounting is the accounting software, which is application software that records and processes accounting transactions within functional modules such as accounts receivables and performs double –entry function for general ledger, account receivable, the accounts payable. More sophisticated system also support functions for payroll, inventory, invoicing, and non-current assets. Some high-end systems even support sales analysis and time billing and some other systems support preparation, presentation and interpretation of financial reports, thereby relieving the manual accountants and highly placing the electronic accountants.

Benefits of ICT Application to Accounting in an Organization

Studies reviewed by Davis and Tearle (1999) and Lopez, (2003) disclosed that ICTs provide opportunities for students of accounting in higher institutions to acquire valuable computer skills which are requisites for gaining employment in the present day job market. They act as readily tools for preparing students of accounting extract for future work places by equipping them with the requite competence and knowledge necessary to use ICTs in their work. It therefore follows that ICT increases students' preparation for most future careers and vocation.

To Adebayo (2012), benefits of ICT application to accounting in an organization, may be summarized as getting quicker information on financial position of the organization by just pressing/touching a button; ascertaining with accuracy the revenue generated in an organization on daily, weekly, mostly, quarterly etc within a second; providing detailed expenditure information to aid the management in loss control and facilities decision making; budget and forecast (annual budget); reducing financial and administrative overheads; project monitoring and variance analysis; preventing frauds; eliminating drudgery in financial planning; cutting timely report and financial statement after every transaction; and audit trail and alarm for use as security proof to deter an unauthorized user.

Challenges to ICT in Accounting Higher Education

Absence of standardized evaluation framework for education intervention using ICT (Adomi and Anie, 2006); limited local capacity for evaluation (Samuel and Iyamu, 2005); weak infrastructure; lack of skills (Okebukola, 1997); lack of relevant software(Salomon,1989); and limited access to the internet(Ajayi, 2012 and Tinio, 2002).

Methodology

This study, which was conducted in Ebonyi State of Nigeria, covered three main higher institutions located therein, two of which are owned by Federal Government, while one is owned by the State Government. The design adopted for this study was simple survey. Students in these three higher institutions made up the population. A sample size of 450 students was drawn using stratified random sampling technique. Further break down of the sample showed that 150 were drawn from each of the three higher institutions.

Two researches constructed instruments called "Students Access to ICT Inventory (SAII) and Students Labour Market Preparation Questionnaire (SLMPQ)" were designed. Each of the instruments had two sections A and B. The Section A contained 7 demographic variables.

Section B of (SAII) has 16 items, measuring students' access to ICT tools, which were arranged on four point Likert scale. Section B of SLMPQ had 10 items measuring students' preparation for labour market. The items were also arranged on four point Likert scale. The instruments were first validated by experts in measurement and evaluation, while the trial test gave reliability coefficient estimates of 0.79 and 0.88 SAII and 0.67 for SLMPQ. These figures indicated that the instruments were reliable for use in achieving the research objectives.

Administration of the instrument was carried out with the aid of research assistants recruited in each institution. The instruments were administered to the sampled 45O. The measures adopted in doing this gave a 10O percent return rate. Population t- test of single mean, independent t-test, one way Analysis of variance and its associated Fisher's LSD Multiple Comparison Tests were used to analyze data generated for this study.

Analysis of Result

Hypothesis One

Graduate of Accountancy access to ICT tools is not significantly low. The only variable here is; graduate of accounting access to ICT tools. Data obtained were statistically analyzed using population t-test (test of one sample mean). Results are presented in table one (1) as shown in **appendix**, which shows that **P > 05**; **df = 449**; **Critical: t = 1.965**. The results presented in table I revealed that graduates of accountancy access to ICT tools is significantly low with respect to Desktop computers (t = 4.342, P < .05); Laptops (t = .11.115, P<.05); Accountancy packages (t = -9.533, P<.05); Overhead projector (t = -66.615, P<0.05); Slide projectors (t = -12.639, P<.05); PowerPoint projectors (t = -10.842 P<.05); Multimedia projectors (t = 24.526; P<.05); Data projectors (t = -3.037) P<.05); Internet facilities (t = -14.876, P<.05). Broadcast Television (t = -13.749, P<.05); Videos (t = 11.263, P<.05); Tape Recorders (t = 9.412, P<.05); compact discs (t = 20.377, P< 0.05); and printers (t = 8.364, P< 0.05). The null hypothesis was therefore rejected because, obtained t-values were found to be higher than the critical t- values of 1.965 at 0.05 alpha level of significance with 449 degree of freedom. This result also disclosed that graduates

of Accountancy access to ICT tools is not significantly low with respect to photocopies (t= -1.840, P< 0.05) and mobile telephones (t = 0.538. P< 0.05); given the same critical t- value, alpha level of significant and degree of freedom. Further examination of the results in table 1 revealed that the observed mean access to ICT tool by graduates of accountancy was lower for 10 of the ICT tools than the expected mean access ICT tools of 5.50 whereas in the remaining 6 ICT tools it was higher. Statistical comparison of these observed mean value and the expected mean value of 5.50, using population t-test analysis for one sample mean, negative t- values were obtained for the former, while positive t- values were obtained for the latter. By implication, this findings shows that graduates of Accountancy access to ICT tools is significantly low except in photocopies and mobile telephones. In other words, graduates of Accountancy in the higher institutions have little or no access to ICT tools enumerated in this study, what seemed to be a high access was recorded in photocopies and mobile telephones.

Hypotheses Two

There is no significant deference between graduates of Accounting who have access to ICT tools and those who do not in their labour market preparation. The operational measures of variable is the correlation between the independent variable graduates of accounting access to ICT tools and the dependent variable, labour market preparation. Independent t-test statistical analysis in used to compare the mean scores from the two groups. A summary of the result is presented in table 2, shown in the **appendix** for independent t-test analysis of the Difference Between Graduate of Accounting with Access to ICT Tool and those who do not in their labour market preparation, giving P.<.05; df = 448; critical t = 1.965.

The results presented in table 2 showed that these is a significant difference—graduate of Accounting who have access to ICT tools and those who do not in their labour market preparation in terms of Desktop computer (t=3.474, P<.O5); Laptops (t=7.034, P<.O5); Accounting packages (t=4.633; P<.O5); Overhead projectors (t=3.054; P<.O5); Slide projectors (t=5.313) P<.O5); Power Point projectors (t=4.703, P<.O5); Multimedia projectors (t=7.033, P<.O5); Data projectors (t=6.853; P<.O5); Photocopies (t=4.000; P<.O5); Internet facilities (t=7.552, P<.O5 Mobile Telephone (t=5.600, P<.O5); Broadcast Television (t=6.400, P<.O5), Videos (t=6.559, P<.O5); Tape Recorders (t=4.559, P<.O5); Compact discs (t=3.303. P<.O5); Printers (t=5.216, P<.O5).

The null hypothesis was therefore rejected given the fact that the obtained t- values were found to be higher than the critical t- value of 1.965 at 0.05 alpha level of significance and with 448 degree of freedom.

Further observation of the results in table 2 disclosed that in all sub-variables, Accountancy graduates who have access to ICT tools had higher mean values than those who have no access to ICT tools in their labour market preparations. This implies that

Accountancy graduates who have access to ICT tools had better preparation for labour market than their counterparts who have not.

Hypothesis Three

There is no significant influence of Accountancy graduates' level of access to ICT on their labour market preparation. The operational measures of variable are the correlation between the independent variable which is Accountancy graduates' level of access to ICT, and the dependent variable which is labour market preparations. Using one way Analysis of variance (ANOVA) and its associated fisher's LSD Multiple Comparison Test data obtained from the variables are analyzed. Summaries of the result are presented in tables 3 and 4 in the **appendix** for one way Analysis of Variance (ANOVA) of the influence of Accountancy graduates' level of Access to ICT on their labour market preparations, resulting P <. 05; df = 2; 447; critical f = 3.02.

As presented in table 3, the results indicated a high mean Accounting graduates' Access to ICT for labour market preparation (x = 10.07), moderate mean Accounting graduates' Access to ICT for labour market preparation (x = 10.43) and low mean Accounting graduate to ICT for labour market preparation (x = 11.31).

When one way analysis of variable (ANOVA) was applied, significant f – value of 6.95 was obtained. This f – value was found to be higher than the critical f – value 3.02 at 0.05 alpha level of significance with 2 and 447 degrees of freedom and so, the null hypothesis was rejected. With this result therefore, there is a significant influence of Accounting graduates level of access to ICT on their labour market preparations. Given the significant f – value, a post hoc analysis using Fisher's Multiple Comparison Test was carried out. A summary of the result is presented in table 4 as noted above for Fisher's LSD multiple comparisons test analysis of influence of accounting graduates' Access to ICT on their labour markets imperative. This gives P < .05s

- 1. Group means are low the diagonal
- 2. Difference between group means is above the diagonal.
- 3. Fisher's LSD t-values are below the diagonal.

The result in table 4 disclosed that Accounting graduates in the high group had more access to ICT than their counterpart in low group (t = -3.647, P < .05).

Similarly, Accounting graduates in moderate group had more access to ICT than their counterparts in low group (t = -2.378, P < .05). This finding therefore implies that Accounting graduates in high group in all cases had more access to ICT than their counterpart in moderate and low groups, and so are likely to be more prepared towards labour market than other groups.

Discussion of Results

The outline of the analysis of hypothesis one disclosed that Accountancy graduates Access to ICT tools and packages is significantly low, suggesting that graduates from Accountancy departments of the higher institutions sampled lacked access to ICT tools such as Desktop computers, laptops, overhead projectors, slide projectors, Accounting packages, power point projectors, multimedia projectors, Data videos, tape recorders, etc., meaning inadequately prepared for labour market because skills in these ICT tools and Accounting packages are among the critical ICT items most employers of labour set out as necessary for the employment of Accountants. Perhaps, this Accounting graduates' low access to ICT tools and accounting packages may have accounted principally for the high graduate unemployment prevalent in Nigeria in generally.

This finding is consistent with the outcome of Bassey, Umoren, Akuegwu, Udida, Ntukidem and Ekabua's (2007) study, which revealed that graduating Accounting graduates' access to e-learning technology is significantly low. A general explanation for this finding center on the unimpressive funding of education by the Federal Government, which a few years back has been revolving between 7 and 8 percent (Udeaja, 2005).

Furthermore, this result revealed that Accountancy graduates access to ICT tools with respect to photocopies and mobile telephones is not significantly low, meaning Accountancy graduates' access to ICT tools with regards to photocopiers and mobile telephone is high. This is because they are available in such a way that students can easily lay hands on them and use. The reason for this is that these two tools are ubiquitous in higher institution for students use even though their ownership border on private initiative.

The results of hypothesis two indicated that Accountancy graduates who have access to ICT tools significantly differs from those who do not in their labour market preparation. A plausible explanation for this finding is that ICT is the rare of the moment where most of the activities in the industrial, educational, health and business organizations are carried out and even companies that require the services of Accountants to operate, have shifted from manual to electronic facilities. Closely akin to this is the fact that the world has been transformed to an age where activities are now knowledge driven (Yusuf, 2005). ICTs provide the skills necessary to fit into the changing societies and a must for any prospective employee in order to be relevance and meet the labour market satisfaction.

Hypothesis three revealed that there is a significant influence of Accountancy graduates access to ICT on their labour market preparations. That is students who are exposed to ICT have what it takes to meet the demands of the labour market, because ICTs provide the students with the opportunities to gain valuable computer skills for today's job market (Akuegwu, Udida and Nwiue, 2007).

Access to ICT implies gaining the necessary skills, knowledge and understanding to function effectively as an Accountant and face the office challenges (Yusuf, 2005). ICTs provide a link between higher institutions and labour market, as higher institutions are seen to train manpower for the labour market and community service roles. This is in consonance with the reports of Adomi and Anie (2006) that Nigerian industries were concerned about levels of graduate skills in online/internet searching, system management, automated accounting routine task such as payroll, invoice production, maintaining records concerning the flow of funds in the firm and produce financial statement such as cash flow forecast and income statement, and statement of financial position and as such asked the higher institutions to deepen the current exit knowledge levels of ICT skills of their graduates.

Conclusion

On the strength of the findings of this study, it was therefore concluded that accounting graduate access to ICT tools and packages is significantly low. Accounting graduate who have access to ICT had better preparation for the labour market than their counterparts who have not. There is a significant influence of Accountancy graduates level of access to ICT on their labour market preparation. Therefore the degree of students' preparation for the labor market is a function of the extent of their access to ICT facilities or tools/packages.

References

- Abaribe, E. (2002). Are We Really Being Educated? Guest Lecture Delivered on the Occasion of the Graduation Ceremony of Babcock University, Ogun State.
- Adebayo, P.A. (2011). Information and Communication Technology Development and Accounting Education in Africa: Relevance and Challenges: *The certified National Accountant* 19(2), 52.
- Adeosun, O. (2010). Quality Basic Education Development in Nigeria: Imperative for Use of ICT. *CICE Hiroshima University, Journal of International Corporation in Education*, 13(2), 193-211.
- Aderinoye, R. (2002). Literacy Assessment Practices (LAP) in Selected Developing Countries: Nigeria Case Study. *NCAL-ILI-Penn Tell*.
- Adomi, E.E and Anie, S.O. (2006). An Assessment of Computer Literacy Skills of Professionals in Nigeria University Libraries. *Library Hitech News*, 25 (2), 10 -14.
- Afe, B. (2006). The Dwindling Standard of Education in Nigeria: The Way Forward, Guest Lecturer Presented at Lead City University, Ibadan.

- Ajayi, G.O (2003). NITDA and ICT in Nigeria. Available: http://ejds.org/meeting/2003//ictp/papers/ajayi,pdf.
- Akuegwu, B.A., Udida, L.A. and Nwi-ue, F.D. (2007). Academic Staff Access to ICT and the Management of Skill-oriented Education in Cross River State University. *Nigerian Journal of Education Administration and Planning*, 7 (1), 33-43.
- Ande, C. O (2005). Essential Economics for Senior Secondary Schools, Ibafo, Ogun State, Tonad Publishers.
- Babalola, J. B (2007). Reinventing Nigerian Higher Education for Youth Employment in a Competitive Global Economy. Being a Retirement Lecture in Hour of Prof. (Mrs.) Grace Mbipom, University of Calabar.
- Davis, N. E and Tearle, P (edn.) (1999). A Core Curriculum for Telematics in Teaching Training. Teleteaching 98 Conference, Vienna, http://www.ex.ac.uk/telematics/13/corecurr/tteach 98.htm (Accessed4th September, 2011).
- Haddad, W.D (2002). ICT in Education Toolkit for Policy Makers, Planners and Practitioners, UNESCO.
- Igbuzor, O. (2006). The State of Education in Nigeria. A Key Note Address Delivered at a Roundtable Organized by Civil Society Action Coalition on Education for All (CSACEFA) on 3rd July, 2006.
- Lawal, R.A. (1995). An Analysis of Reading Habits of Nigerian Secondary School Students: A Case Study of Form Four Students in Oyo (Unpublished M. Ed Dissertation). Faculty of Education, University of Ibadan.
- Ntukidem, E.P., Bassey, U.U., Umoren, G.U., Akuegwu, B.A., Udida, L.A. and Ekabuo, O. O(2007). Nigerian Graduating Students Access to E-Learning Technology. Implications for Higher Education Management. Paper Presented at the 6th International Internet Education Conference, Ramses Hilton, Cairo, Egypt.
- Okebukola, P. (1997). Old, New and Current Technology in Education, *UNESCO Africa*, 14(15), 7-18.
- Salawu, B.A. (2008). ICTs for Sustainable Development: the Nigerian Experience. *Information, Society and Justice,* 2, 115 135.
- Salomon, G. (1989). Computers in Curriculum. The International Encyclopedia of Education Technology. Oxford: Pergamon Press.

- Samuel, E.A. and Iyamu, E.O.S (2012). Using Information and Communication Technology in Secondary Schools in Nigeria: Problems and Prospects. *Journal of Educational Technology and Society*, 8(1), 104-112.
- Tinio, V.L (2002). ICT in Education. Available: http://www.eprimers.org.
- Udeaja, E.A. (2005). Appraisal of the 2004 Budget with Emphasis on Basic Social Service in Nigeria. *Nigerian Journal of Economics and Development Matters*, 4(1), 72-85.
- United Nations (2005). Millennium Development Goals Report. New York: United Nations Department of Public Information.
- Yusuf, M.O. (2005). Information and Communication Technology and education: Analyzing the Nigerian National Policy for Information Technology. *International Education Journal 6 (3) (316 321)*.

Appendix

Table I: Graduate of Accounting Access to ICT Tools

Variable	Expected Mean	Observed Mean		
Variable	U	Х	SD	T
Desktop computers	5.50	6.21	2.03	4.342
Laptops	5.50	4.27	3.11	-11.115
Accountancy packages	5.50	4.93	2.54	-9.533
Overhead projectors	5.50	3.78	2.62	-16.615
Slide projectors	5.50	4.30	3.02	-12-639
Power point projectors	5.50	4.42	2.70	-10.842
Multimedia projectors	5.50	3.18	2.48	-24.526
Data projectors	5.50	5.14	2.59	-3.037
Photocopies	5.50	5.39	3.15	-1.840
Internet facilities	5.50	3.52	2.85	-14.876
Mobile telephones	5.50	5.55	2.74	0.538
Broadcast Television	5.50	3.66	3.19	-13.749
Videos	5.50	6.71	2.88	11.263
Tape recorder	5.50	6.85	2.57	9.412
Compact discs	5.50	7.06	3.05	20.377
Printer	5.50	6.94	2.96	8.364

P > O5; df = 449; Critical t = 1.965.

Table 2: Difference in Graduates of Accountancy with Access to ICT Tools

	Access:	N = 113	No Access: N = 3	37	
Variable	\overline{x}	SD	\overline{x}	SD	T
Desktop computer	10.53	3.51	9.21	3.02	3.474
Laptops	9.92	2.66	7.88	2.56	7.034
Accounting package	5.78	2.84	8.39	2.69	4.633
Overhead projectors	10.16	3.50	9.03	3.15	3.054
Slide projectors	8.67	2.91	6.97	3.09	5.313
PowerPoint projectors	10.22	3.62	8.48	2.57	4.703
Multimedia projectors	9.74	2.68	7.63	3.10	7.033
Data projectors	10.35	3.19	8.02	2.83	6.853
Photocopies	10.48	3.27	9.12	2.62	4.000
Internet facilities	11.33	2.55	9.14	3.11	7.552
Mobile telephone	10.59	3.23	8.66	3.24	5.600
Broadcast television	9.68	2.75	7.76	2.83	6.400
Videos	10.34	3.19	8.11	2.77	6.559
Tape recorders	9.76	3.28	8.21	2.59	4.559
Compact discs	10.18	2.97	9.09	3.07	3.303
Printers	11.26	3.51	9.33	2.88	5.216

P<.05; df = 448; Critical t = 1.965

Table 3: Accountancy Graduates Level if Access To ICT

		N	\bar{x}	SD
High		138	10.07	2.15
Moderate		110	10.43	2.03
Low		202	11.31	3.49
Total		450	10.71	2.56
Source of variation	SS	df	ms	F
Between group	136.85	2	68.43	
Within group	4399.17	447	9.84	6.95
Total	4536.02	449		

P < .05; df = 2; 447; Critical f = 3.02.

Table 3: Accountancy Graduates Level if Access To ICT

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High		138	10.07	2.15
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Between group	136.85	2	68.43	
Within group	4399.17	447	9.84	6.95
Total	4536.02	449		

P < .05; df = 2; 447; Critical f = 3.02.

Table 4: Influence of Accounting Graduates' Access to ICT Tools

Variable	Group	High (n = 138)	Moderate (n = 110)	Low (n = 202)
Accounting Graduates' Level of access to ICT	High	10.07 ^a	-0.36b	-1.24 ^b
	Moderate	-0.900e	10.43a	-0.88b
	Low	-3.647c	-2.378c	11.31
	MSW=9.84			

P < .05s

Reference to this paper should be made as follows: Ukpai, U.I. (2013), Information Communication Technology in Accounting Education: Challenges and Prospects. *J. of Education and Policy Review*, Vol. 5, No. 2, Pp. 1-12.