

# **Leadership Vacuum in the application of ICTs in Lifelong Learning in Africa**

**Judith W Kamau**  
**Senior Lecturer and Head, Department of Distance Education**  
**University of Botswana**  
**kamaujw@mopipi.ub.bw**

## **Abstract**

*This paper discusses the leadership vacuum in the application of Information and Communications Technologies ICTs in lifelong learning in Africa South of the Sahara. It identifies challenges and constraints that counter the application of emerging technologies such as the internet and the cell phone in continuing education in order to widen access and participation in lifelong learning. The paper further discusses factors affecting access and availability of ICT technologies and their impact in promoting and sustaining lifelong learning and suggests how these technologies can be harnessed through organised leadership to provide sustainable learning experiences.*

Key words: Leadership, ICTs, access, sustainability, open and lifelong learning.

## **The Leadership vacuum in the application of ICTs in lifelong learning**

In this paper, the term, Communications Technology is widely used to cover a range of technologies, (TV, radio, multimedia, internet, fixed and mobile telephone networks, cable television, internet connectivity through electrical wiring systems and many more. ICTs have been used separately or in combination to deliver content synchronously or asynchronously to support interactive communication between learners and their teachers particularly in open and distance learning delivery mode. The integration of digital and electronic communication devices such as the video, audio, data and text is being used in Africa, particularly in the urban areas to create rich interaction between learners and their teachers or for business purposes in the world of commerce. However, the use of ICTs in lifelong learning is greatly influenced by access and availability of technology, affordability, and possession of requisite literacy skills. Physical access, where learners have access to computer hardware and telephones, radio and television technologies and the skills required to enable one to use these technologies effectively, particularly computer technology and the internet remain some of the major challenges in Africa. Secondly skilled capacity and socio-cultural factors, such as gender, race and age; lack of relevant content that addresses the local and macro- economic environment; lack of legal and regulatory frameworks that facilitate the integration of ICTs in daily lives of people have a negative impact in the application of ICTs in continuing education in Africa.

Lack of ICTs infrastructure, and high costs, and the failure by many governments in Africa to integrate ICTs in the economy at the micro-level makes these technologies out of reach as teaching and learning tools for the majority many of whom live in the rural areas.

Despite these challenges, the lightening pace at which the world is changing today dictates that practising professionals engage in a process of lifelong learning. This demand has been created by what Perdue (2003:615) calls, ‘explosion of information; the changing nature of knowledge. Provision of lifelong learning, to cater for out of school youth and adults in Africa is inevitable. Staff development for people using ICTS for lifelong learning is essential to equip the to develop and deliver academic programmes of good quality. Capacity building for lifelong learning is further justified by the rapid pace of the technological change that now requires educational systems to prepare their citizens for employment by training them for several careers, in a variety of learning environments (Pacey & Keough, 2003). This requires the integration of information technologies (ICT) with the world of work. Where available, computer technology has been used effectively for teaching and online registration of distance learners, submission of grades, digitization of students records and in the orientation of new and incoming students.

Fear of the unknown is another factor that affects the use of ICTs in teaching and learning in Africa. Even where technology is available, the introduction of ICT taught academic programmes is quietly resisted by academicians in institutions of higher learning for fear of being replaced by technology. Very often, open and distance learning practitioners experience subtle resistance from academicians who ask, ‘what will happen to me if I convert my course to WebCT to be provided online’? This fear militates against the provision of continuing and lifelong learning particularly in dual mode institutions because those outside university walls cannot access tertiary education, in an extramural context. National governments and educational institutions have a duty to educate their people about the value of ICTs in expanding educational opportunity to those who cannot go to conventional institutions due to long distances or other socio-economic factors.

### **ICT Policy Guidelines and Lifelong Learning**

Lack of policy guidelines in the application of ICTs perpetuates the disconnect between physical access to computers and on- the -ground connectivity thus limiting the use of technology as a resource for lifelong learning and socio-economic development in general. As a result, there is too little if any systematic learning offered through ICTs. In order to create a more equitable global society that is connected and is learning and communicating regularly, certain barriers to the access to ICT technologies require immediate attention by leadership in Africa. Except in a few major urban cities, connectivity to ICTs remains one of the major barriers to accesses to ICT for learning purposes. Lack of technology in Africa has meant that performing various administrative activities such as providing information on course prerequisites, grading criteria and tips on how to study are done physically by bringing students together in a study centre at very high costs borne mostly by the learners. Providing these services through ICTs would reduce time wasted and costs incurred by distance learners when they go to designated but geographically distant study centres to register or access learning materials for their courses in various academic programmes.

Africa’s participation in e-commerce, has been minimal, leading to minimal or no benefits from the ICT trade. Africa has been more of a consumer of the both hardware

and software and not an equal trading partner of the multinationals corporations that own and sell ICT technologies. The only engagement in this trade has been in form of small businesses which are limited mainly to the mobile phone technology which is available to limited numbers in the rural areas who live near small urban centres where they can walk to charge their cell phones. To redress this situation, some African governments have already embarked on policy initiatives in order to enhance access to ICTs. The Botswana National ICT Policy, *Maitlamo*, (2005) undertakes to provide public radio and TV broadcasts including community radio; provide all Batswana with easy and affordable access to the internet at home and through Community Access Centres and via mobile internet units; and train communities in the use of ICTs to enable them to participate in Micro, Small and medium, business enterprises (MSMEs) by 2016. This ICT policy also underpins the need to provide easy access to valuable information on health, jobs, and education; increase the number of computers at home; and increase ICT related education to children, the youth and adults by connecting schools and libraries with ICT and reach rural communities by providing internet access centres and training in rural villages. Although there is a modern telecommunications network infrastructure around the main transportation corridors circling the country, to support e-Readiness and e-Potential in Botswana, smaller and remote communities who stand to benefit from lifelong learning are not well served, as yet.

The Botswana government underscores the ICTs potential in teaching and learning, by encouraging curriculum developers to include ICT skills in the school curriculum so that there can be a bottom up skills development in the acquisition of ICT skills. To support these initiatives, the government has resourced education centres for teachers to use when they go for in-service training (INSET) (Boitshwarelo, (2009:10). However, there is a serious shortage of ICT facilities, particularly the internet in the school environment. This shortage could be due to government policy guidelines that require the ministry of education to provide ICT infrastructure at centralised places such as the education centre for use by teachers during in-service activities. Given the irregular access to the ICT facilities in the education centres, and in schools, it is therefore difficult to roll out an ICT training strategy using this approach, in Botswana. To redress the situation, Boitshwarelo (2009:13), advocates for a deliberate government policy that supports teachers acquisition of ICT skills, capacity building and the existence of an ICT-supported learning environment.

If internet facilities were available in all primary schools, in-service primary school teachers studying via the distance mode would be able to search the internet for educational resources, receive updates to the modules, submit their assignments, receive online tutorial assistance, receive feedback on their assignments and make enquiries to administration about their progress (Wright, 2008). Secondly, the programme staff would also use the internet to communicate and conduct their administration duties more efficiently, while audio conferencing and video conferencing would be used to connect learners with their tutors and allow tutorials to be conducted. Wright (2008) recommends the provision of facsimile machines to all schools that have landline based phones, to facilitate faster communication and enable distance learners to send their assignments by fax and retain a copy as evidence. This would make record keeping easier because students can track their assignments by the dates they were sent, where these are misplaced or cannot be traced by providing

institutions. Facsimile machines would reduce the trips distance learners have to make to post offices to post their assignments to colleges for marking.

Limited access to ICT infrastructure, lack of adequate ICT skills, time constraints in the workplace due to competing teaching workload, all interfere with the application and use of ICTs. These sentiments are voiced by Mead-Richardson,(2009) in her paper examining the application of ICTs for training lecturers in colleges of vocational and technical education so that they can offer some of the technical courses through the distance delivery mode. In his study to establish Relative levels of eLearning readiness, applications and trainee requirements in Botswana's Private Sector, Nleya (2009:9) found that, *'there is low confidence in the use of computers in the areas such as finding documents, using folders to organise emails, use of multiple documents, use of graphics, Photoshop, electronic discussion, searching on the web, discussion lists, chat, video/computer-conferencing, smart classrooms, updating training materials, and the use of computer labs for computer based training'*. From this study it can be argued that although private sector employees in large companies in Botswana have access to computers, their employees are at the point of initial awareness according to diffusion of innovations process thus indicating very low levels of eLearning application in the private sector. This is in spite of the fact that 70% of the companies reported that they encourage their employees to acquire computer literacy skills. This low competency skills in eLearning can be attributed to lack of eLearning action plans in Botswana and other developing countries. Such plans are necessary to inform the establishment of partnerships between the public and the private sector in order to encourage technology transfer and improvement of entrepreneurial skills so as to achieve systemic change (Nleya 2009:11).

As cited by Gakuu et.al. (2009) the Kenya National ICT Policy of 2006 emphasizes the need to integrate ICTs in education so as to improve access, learning and administration. However the study cites various factors that hinder the use of ICTs namely: lack of skills and interest in schools particularly among school managers who are the drivers of change in educational institutions; limited or lack of access to computing equipment and the internet; lack of skills among teachers; including lack of time to prepare ICT teaching materials due to overloaded school curriculum. This study concluded that although national policy documents on ICTs exist, they have not been fully implemented due to lack of action plans at the school level while connectivity to facilitate access and use of ICTs for learning and teaching is still at its infancy. The study also found a big divide in access between urban and rural institutions with urban areas being better equipped than institutions in the rural areas. The study suggests that the ministry of education develop an ICT policy that requires integration of ICT instruction in the school curriculum. This study notes that, little has been done to integrate ICTs into teaching and learning, mainly due to lack of policies and action plans at school and the national level.

In 2009, the Kenya government gazetted the Kenya Communications (Amendment Act of 2009 to among other things, facilitate the development of information and communications (ICTs) through various media such as broadcasting, multimedia, telecommunications and postal services including electronic commerce (Gakuu, et. al 2009). To strengthen the use of media as a tool for stimulating socio-economic development, the Kenya government has launched the East African Marine Systems (Teams), which is a high capacity fibre optic cable to connect Kenya and East Africa

with the rest of the world at a high speed. When fully operational, this initiative will no doubt stimulate economic development in Kenya by enabling both rural and urban communities to participate in e-education, e-commerce and e-agriculture.

### **ICTs and Millennium Development Goals (MDGs)**

The application of ICTs in lifelong learning in Africa must be viewed in a wider global context. At the turn of the century, Commonwealth governments identified eight UN Millennium Development Goals (MDGs) (Daniel 2004) to be realised by 2015. Achieving these goals requires the development of the necessary skills to enable people to create their own human capacities. The first MDG champions the eradication of extreme poverty and hunger. This is only possible through the exploitation of ICT capabilities to facilitate sharing of information on agricultural developments at the grass root level, in order to improve farming, production and storage techniques. The radio and the mobile phone technology has been very effective in facilitating communication among rural communities. The second and third, MDGs (to promote universal primary education and reduce gender disparities) requires training of massive numbers of teachers, a feat that cannot be achieved through the conventional education systems. The fourth, fifth and sixth MDGs advocate the improvement of health by reducing mortality rates of children and that of women at child birth and the reversal of the spread of HIV/AIDS. Achieving these goals requires training of health personnel and provision of primary health information to all, through delivery modes such as open and distance learning (ODL)

Through the use of ICTs, ODL can be harnessed to provide lifelong learning and subsequently facilitate the achievement of the MDGs as it is an appropriate vehicle for training and development of staff through partnerships at the local, regional and international levels. Some of the setbacks in the realisation of MDGs through ODL is lack of policy guidelines and partnerships to provide educational opportunity through Lifelong learning. Towards this goal, the Commonwealth of Learning, COL is providing leadership by working with collaborating governments to develop national and institutional ODL policies and design appropriate learning materials in order to scale up opportunities in lifelong learning by 2015.

These initiatives need buy in from collaborating governments and institutions. In this regard, COL notes with regret that the Centre for Distance Education for the Southern Africa region (SADC-CDE), which was one of the first initiatives in this direction has had little impact on the region due to lack of buy-in from the institutional partners that it was intended to work with (Commonwealth of Learning, 2009-2012:50). However the COL has undertaken to promote lifelong learning and livelihoods in rural communities by forging links with universities, research institutes, and key actors in ICT and media to create and make vital information accessible to farmers, through the development and use of ICT supported training programmes.

### **Capacity Building**

Given the current need to address poverty reduction; provide access and participation towards equity of opportunity and the internal competitiveness among public and private institutions, including limited funding from national governments, tertiary education institutions in Africa such as the University of Nairobi in Kenya have

embarked in continuing and lifelong learning not just to provide access but also to generate funds, by providing open and distance education programmes through ICTs and short courses. Tertiary institutions such as the University of Nairobi, Open University of Tanzania and the Zimbabwe Open University have introduced diploma and Masters in open and distance education programmes via ICTs as part of capacity building in the development and packaging of instructional materials for lifelong learning. Drawing from the industry, public and private sector these institutions offer short courses through various delivery modes. These courses are meant to equip participants with audio/video development skills, so that they can in turn develop, record and disseminate multimedia learning materials packed into DVDs and VCD for lifelong learning. The University, has also set up a Web Learning Management System called the Web Education Software Electronic Learning Environment (WEDUSOFT ELE) to support ODL teaching and learning strategies at the University (University of Nairobi, 2009). This web based eLearning medium is mainly meant to train academicians to support students by converting courses from face to face delivery to web based delivery and adapting and integrating technologies to improve the delivery of

The emergence of the World Space Radio using a digital satellite signal, (Afristar and Asiastar), interest in radio as a medium of instruction has been revived in Kenya to exploit the potential of radio for educational purposes (Odera 2006). With its digital satellite signal and portable receivers, the Kenya government has provided leadership and support in exploiting the World Space Satellite Radio, to transmit radio broadcasts to in-service teacher trainees and to supplement primary education lessons in all primary schools. Although radio broadcasts cannot take the place of a teacher, the world space radio has played a significant role in supporting distance learners and by so doing helped to widening access to educational opportunity and lifelong. After school hours, the World Space Radio is used to deliver audio-drama, entertainment and educational content to adults and other professional. Radio lessons are supported by printed materials..

The acute shortage of trained teachers in Ghana and generally in sub-saharan Africa cannot be addressed through conventional methods only (Sampong, 2009). Through in-service open and distance education delivery mode, (mainly print supported by face to face tutorial sessions), Ghana is augmenting pre-service teacher training programmes offered in 40 colleges of education in the production of qualified teachers as a measure to phase out untrained teachers from primary school teachers. The aim is to upgrade teachers without withdrawing them from the schools and by so doing enable teachers to integrate theory with practice, create career paths for promotion and new avenues for acquiring further qualifications through lifelong learning

Another top player in the provision of lifelong learning via ICTs is the African Virtual University (AVU). The AVU strengthens technology driven teaching and learning by working with partner institutions in the development of learning materials; training staff from partner institutions in delivery and technology; governance and funding to promote accountability transparency and good governance of distance education programmes; and training of personnel in professional development aspects (Dzimbo, 2004). In addition the AVU helps partner institutions in:

- Formulating and implementing human resource development strategies and policies;
  - Putting in place guidelines for identifying, recruitment, training and retention of ICT staff through staff performance management and assessment systems;
  - Selecting and using technology (ICTs) and infrastructure that is affordable, accessible and conveniently located within the reach of trainees to facilitate capacity building;
  - Creating resource pools of local trainers/facilitators;
  - Developing infrastructure that facilitates regular formal and informal staff development meetings;
  - Developing a comprehensive plan for assessing human capacity for addressing short, medium and long term skills development requirements;
  - Developing staff capacity in costing, budgeting and financial management
- Staff development in ICTs involves identifying strategies that enhance human resource development and operational capabilities to improve performance the institution. This requires effective design, implementation, coordination, management and evaluation of programmes, taking into account the available human, financial, physical, technical and related infrastructure.

### **Mobile phone Technology and Lifelong learning**

Access to ICTs for educational or business purposes remains one of the major obstacles in Africa where global inequalities in terms of accessing ICT tools with an estimated mere 21 million of its 816 million citizens having the privilege of having access to the mobile telephone (Gakuu, et.al 2009). Majority of those with mobile telephones are based in the North of Africa or South Africa. Secondly lack of education, training and skills development in ICTs reduce peoples power to utilize fully, ICTs such as the computers. Technophobia is another challenge that many adults encounter in their endeavour to embrace new technologies. In some instances, lack of role models and career advice, inadequate intuitional support lack of encouragement and mentoring, including lack of peer support and support networks, could be hindrances towards embracing of ICTs for some adults. To combat these fears particularly among women, Omamo, (2009) suggests the existence of initiatives that encourage potential users to develop self esteem, self confidence and self reliance.

Mobile phone technology, particularly the Short Messaging System (SMS) is used to communicate important administrative issues, such as academic instructional messages, interactive quiz questions with feedback, submission of answers to paper based assignments and 30-second lectures on important concepts in the study materials (Fresen and Henrikz, 2009:14). As cited by Fodzar and Kumar (2007:4), mobile phone technology is used at the Indira Gandhi Open University (IGNOU) to provide distance learners with more interactive, more bustle, more contact and more regular communication with tutors and among themselves. IGNOU has found mobile phone technology useful for supporting distance learners who are mainly adults combining learning with full time jobs, family and other community commitments. In this regard, the mobile phone technology can be used to enhance communication between learners and their teachers and between learners themselves and combat factors such as lack of time, poor guidance, lack of support from tutors including difficulties in contacting tutors, not getting study materials on time and not getting

timely feedback on assignments, and time management issues. Other issues cited by distance learner for lagging behind in their studies include lack of interaction with other learners, lack of time to job and family responsibilities. Some of these learning problems can be combated through the creation of learning communities or self-study groups and as a result enable students to interact, socialize and develop feelings of connectedness with themselves and the distance education institution.

The University of Makerere, Uganda, uses the SMS to communicate with distance learners Kanjumbula, (2006). This was made possible by a broadcast software from a local company, which has capacity to send instant messages to the mobile phone and email contact of a student. Through this SMS software, the University is able to send vital information relating to course delivery structure by specifying which units are to be covered, timetables, feedback from tutors, fees updates and about new stock of textbooks. This study found that distance learners are happy with SMS communication as it is more regular than general correspondence and keeps them connected to the University. However issues of costs come in where some students could argue they cannot afford to stay long hours on the mobile phone due to high costs of airtime. Kanjumbula argues for a dedicated line with mobile phone providers, to combat commercial rates for students and reduce costs incurred by the University announcing programme activities through the radio and newspapers.

In Botswana, the mobile phone technology, though relatively expensive, can be applied to connect distance learners with their tutors if transmission costs for educational purposes were to be subsidised. Mobile phones could be used to communicate attendance to tutorials, submit grades to students, and contact learners about class activities such as change of dates for tutorials. As cited by Wright (2008), Aderinoye, Ojokheta and Olojede (2007) argue that in Nigeria, mobile phones are used to teach literacy to about 9.3 million nomads, as they move from place to place with their herds of animals. In Kenya, doctors use cell phones to diagnose diseases for patients living in remote areas. Another alternative would be to install toll free telephone lines at colleges of education to facilitate communication between distance learners and their tutors. Institutions such as the University of South Africa, UNISA run toll free telephone lines for their distance to enable them to get tutorial assistance, counselling and library services.

These technologies can be utilized further to provide training to participants about how to run small businesses. As reported by Bakesha, et.al (2009), rural women in Uganda, have utilized information provided on a CD-ROM, face to face distributed groups and home to home networking to improve their entrepreneurship businesses skills. As a result of this blended learning experience, communities of learning and practice emerged in form of new groups (formal and informal) were formed to enable the women to enhance their businesses. In this initiative, the first group of learners acted as role models and later mentors of new group members.

Another initiative involves e-Schooling for the youth and young adults which combines formal education with entrepreneurial skills through the use of ICTs in situated and distributed community centres in both rural and urban areas (Kinyanjui, 2004). By embracing ICTs, Kinyanjui urges African governments, in collaboration with NEPAD and the African Union and the African Council for Distance Education, to develop national strategies that are embraced by all stakeholders so as to create



ICT capacity in the design and management of educational programmes that are delivered via ICT technology. One of the solutions to provide access could be through satellite technology and continental backbone infrastructure to link major cities and hubs at the continental level.

### **Target Groups**

Apart from teacher education which has benefited from the application of ICTs in Africa South of the Sahara, there are other target groups that can be reached. Wolf as cited by Munyua (2009:2), postulates that approximately, 10% of boys and 40% of girls in developing countries aged between six and eleven never enrol in school particularly in areas where factors such as unemployment and mothers' education is lower, and where the girl child is more likely to have household and childcare responsibilities including engaging in income generating activities as her contribution to the family income. Another target group that could benefit from ODL and lifelong learning initiatives in Africa, includes people in a self-employed who are involved in Micro Small Enterprises (MSEs) such as hair saloons, selling of second hand cloths, running small scale home based catering services, and *Jua kali* (hot sun) welding and car repair activities who own and use the mobile phone extensively (Munyua (2009). Mobile phone enables these entrepreneurs to network and share information by communicating anywhere, any time. These traders are also able to integrate their businesses and family life and as a result, improve their business performance without compromising their life activities. Yet very few of these entrepreneurs are trained in how to run a business and this is where the use of ICTs and the mobile phone would make a contribution.

The use of ICTs such as computer assisted learning is out of reach for learners based in the rural areas. At the University of Pretoria, in South Africa, online internet-based learning was found inappropriate since not every distance learner has access to a computer (Fresen and Hendrikz (2009). In order to diversify the delivery mode from print based materials, CD\_ROM for learners taking the Advanced Course in Education, (ACE) containing enrichment learning materials and not compulsory reading so as not to disadvantage learners who have no access to computer networks. The materials in the CD-ROM included "e-library" in form of library articles, generic academic support such as time management and study skills, coping with stress. The CD-Rom materials are accessible only to about 25% of students who have access to computers. This project also uses cell phone technology since because 99% of the learners have access to cell phones. Through this push technology approach, many students have tried to get access to computer ether at the schools or at internet cafes, so that they can read materials on the CD-ROM.

In Nigeria, mobile technology in form of e-health is used to provide mobile health care (Ikhu-Omoregbe, 2008), through the provision information required for health promotion, provide medical education, facilitate biomedical research. Health practitioners have found the application of mobile technology in form of PDAs, cell phones and laptops useful in the provision of health care. E-health can facilitate exchange of records, transfer of prescription information, including classification of diseases and storage and exchange of medical images, and as a result lead to a more

efficient, timely exchange of medical information among medical care providers reducing errors that are likely to occur through paper work communication in a typical hospital particularly in the developing countries of sub-saharan Africa.

## Conclusion

In conclusion, I would like to argue that if Africa is to realise the full potential in the use of ICTs in lifelong learning, there is need for a committed leadership at the regional and national level, that makes ICT technologies available and accessible to all in Africa. Setting up ICT policies alone without implementation guidelines will not assist. There is need for guidelines deliberately developed that outline how ICTs technologies are going to be tapped. Secondly, there is need for research at the grassroot level to establish why ICTs are only available to those who live in urban areas and how these technologies can be accessed in the rural areas where the largest population in Africa lives. Thirdly, governments in Africa need to create visible partnerships with non-governmental organisations and the private sector, particularly the multinational corporations so that the latter can subsidise technology to make it accessible and available for lifelong learning. Finally lack of literacy skills remains the main threat in the use of ICTs by the majority in Africa. This hindrance needs immediate attention.

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