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NTEGRATING INFORMATION COMMUNICATION TECHNOLOGY (ICT) IN THE MANAGEMENT OF SCHOOLS IN NIGERIA

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ABSTRACT
The introduction of Information and Communication Technology (ICT) has turned the whole world into a global village. This innovation has a great positive influence in educational management in the 21st century. This paper focuses on the utilization of skills and competences (best practices) in relation to diverse knowledge, availability and utilization of ICT resources as they influence student's academic performance of educational institutions. There are wide variety of innovations in the use of ICT in form of correspondence, enrolment figure; documentation of staff personal files, circulars, memoranda, meetings, working document and so on. This paper further examines the basic challenges facing educational managers in utilization of recent development in ICT in the education service/ delivery; Such as epileptic power supply, knowledge gap etc. The paper recommends accurate and timely adaptation to the use of ICT and provision of ICT materials and accessories in educational institutions as a means of reducing problems of school management in Nigeria.

Keywords*: Resource Availability, Utilization, ICT Skills, Performance and Managers.*

Introduction
Educational management could be specifically referred to how both human and material resources are efficiently mobilized in order to accomplish educational

objectives. This is because any educational system or school system determines to a larger extent how both human (teaching and non-teaching) in one part and the material resources on the other part are effectively managed (Tijani, 2010).

Educational system as a productive system consist of set of input in form of human and material resources that undergo certain process before they are turned into output in the form of graduates.

In the past years, management of educational resources are manually conducted and carried out in stressful manner. For example, stock and record keeping in school system were done with heavy volumes of papers and files that were typed with manual type writers-School fees and other payments were conducted with receipts that could be easily forged. Teachings were conducted with old method of chalk and board and students'-results typed and pasted.

In this 21st century, a lot of educational innovations have been introduced. Such innovations entail the use of Information and Communication Technology (ICT) facilities in the form of e-learning system. The innovations in computer usage have turned the world into a global village. This implies that educational management in the 21st century has aided the best practices. Twenty First Century skills or competences refer to knowledge, dispositions that people need to be able to contribute to the knowledge society (Voogt & Robin 2010). This however is described in this paper as educational innovation. Nzewi (2012) has noted that three things that are propelling future curriculum expert include digital delivery, interests and skills. The world is fast on the digital lane and hardly can anyone think of a particular area of life that technology has not touched. Queuing favourably in the global community is dependent issues on the knowledge and utilization of ICT. Being that education is in the forefront of national development, it becomes imperative that those who will prepare youths that will transform our nation should be ICT literate. There is no way old methods can be used to impart new knowledge. It will look like putting 'new wine in an old bottle'.

Development in relation to nationhood, therefore, in theory represents the emergence of a nation from a primitive state through progressive advancement in sustained socio-politico-economic growth and stability to improved standards of living. Adesina, 1997 conceptualized development as a gradual unfolding and advancement through progressive stage of growth to adulthood. It is also the emergence from rudimentary state, structure or system to well grown vigour and action. This declaration put education central to national development because, the most important instrument for achieving a sustainable national development is

education. This is true of Nigeria, as it has been documented in the National Policy on Education (NPE, 2013) which stated that the Federal Government of Nigeria has adopted Education as an instrument per excellence for effecting national development.

This accounts for the most germane definition of education given by Hegel, a philosopher in which education was defined as the progressive perfection of humanity from simple, uncultivated, primitive state of mind through hard discipline of labour and toil to the consciousness and exercise freedom. Ogunsaju (2000) defined education as the art of learning about oneself and one's environment for the purpose of self-development. Also in line with Oyedeji (1998) who defined education as a social process in which one achieves societal competence and individual growth as carried out in selected and controlled setting (environment) which can be institutionalized as a school or college.

To achieve development in all sectors of economy, innovations have to be widely considered and carried out. Hamel (2008) assert that, innovation is a key driver of economic and social progress in any country and the need to promote innovation appears stronger than ever. It is widely understood that innovation is central to the success of modern enterprises be it private, public or voluntary sector. The term "innovation" is often used loosely to include virtually any form of change. Educational innovations practice can be seen through the use of Information and Communication Technologies (ICTs) and school readiness to change. There is considerable public rhetoric, which declares that the use of ICTs is a key lever for educational reform and school change.

No two organizations are identical and no two schools develop exactly in the same way. This is because each school is embedded within unique contextual backgrounds. The diversity of schools varies and the response of the educational organization takes many forms. Some schools have different cultures, traditions, leadership styles; resources etc. and the innovative practices they implement also differ. However, from various studies, educational innovations are closely related and associated with the use of ICTs in educational institutions. It is worthy to point out that much use of ICTs is not necessarily innovative but it supports existing innovative practices in the 21st century.

Many studies have argued for more flexible open forms of learning and of school organization but while it is not difficult to identify numerous promising examples, it is not so easy to find evidence of more sustained and widespread change. Spending on educational research and development is very low in contrast to other sectors of

activity characterized by the intensive creation and use of knowledge and the application of the Research and Development is quite limited. Most of the professional knowledge that teachers use in their daily work is tacit; it is rarely made explicit or shared with colleagues. Schools and classrooms are normally isolated from one another rather than interlinked.

Educational innovations are a key driver of economic and social progress in many countries. If absent, innovation growth stalls; economies and communities stagnate. The educational sector is facing a major global financial and economic crisis and the need to promote innovation appears to be stronger than ever. Educational innovations will help revive economies in the shorter term and will also have a lasting impact. Successful innovations depend upon the human creativity, knowledge, skills and talents that are nurtured and developed, in large part through education. It is worthy to note that educational innovations are clearly related to the search after new approaches to learning. If a school is to change so that its approach to learning is significantly different from what went before, it will often need and embrace innovation in the 21st century. Hamel (2008) asserts that Educational innovation is the invention and the implementation of a management practice, process, structure, or techniques that is new to the state of the art and it is intended to further organization goals. Educational innovation changes the way school managers do what they do, and do so in a way that enhances the organizational performances.

Information and Communication technology (ICT) is an omnibus term that encompasses computer and telecommunications technology. It is all about the technology used in the handling, acquiring, and processing, storing and disseminating information. Information and communication technology is defined as "the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numeric information by micro-electronic-based combination of computing and telecommunication". (Langley and Shain, 1985). It is a broad based term that encompasses the gathering (acquisition), organization (packaging), storage and retrieval (dissemination) of information that can be textual, numeric, pictorial and vocal forms(audio-visual), using combination of all above (multimedia) including computers and telecommunications (telephone), (Wirsiy and Shafak, 2002). Information and communication technologies (ICT) are electronic technologies used for information storage and retrieval. Development is partly determined by the ability to establish a synergistic interaction between technological innovation and human values. The rapid rate at which ICT has evolved since the mid-20th century,

the convergence and pervasiveness of ICTs give them a strong role in development and globalization (Nwagwu 2006).

With ICT welding the world into a global village, linking cultures and people and creating new vistas of knowledge, it is expected that awareness of the availability of this new information world order and utilization by at least the Nigerian academic communities would have reached the highest crescendo. Unfortunately however, Unagha (2006) laments that "many Nigerians, including academics and their students are still apathetic to the existence and usefulness of ICT to their academic and daily life activities" Okafor (1998) has equally posited that while ICT is circling the globe, wielding ideas, people and cultures into a massive village, old idiosyncrasies, lack luster attitude and ignorance of the latent potentials of ICT in the daily life of the people and threaten to cut Nigerians away from the communion. We are therefore not surprised when Asomoah-Harrison (2002) asserts that the utilization of ICT in Nigeria and indeed Nigerian tertiary institutions is still at its embryonic stage. Nigerians and indeed academics and their students need to be greatly aware of the importance of ICT in their daily and academic life activities.

Usefulness of ICT in Educational Management

ICT has a significant impact on all areas of human activity (Brakel and Chisenga, 2003). The field of education is being influenced by ICT, which undoubtedly influences teaching, learning and research. A great deal of research has proven the benefits of ICT to the quality management of education. ICTs have the potential to accelerate, enrich, and deeper skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthening teaching and helping schools change. In a rapidly changing world, basic education is essential for an individual be able to access and apply information. Such ability must first include ICTs in the global village. ICT application and use proves beneficial in improving Nigeria's educational system and giving students a better education. A technologically-advanced workforce will lead to ICT growth in Nigeria.

Utilization of ICT in Educational Management

Utilization of ICT is the pedagogical integration of ICT into curriculum for improving working conditions and management of schools. The Economic Commission for Africa has indicated that the ability to access and use information is no longer a luxury, but a necessity for development. Unfortunately, many

developing countries, especially in Africa, are still low in ICT application and use (Aduwa-Ogiegbean and Iyamu, 2005). This paper focuses on ICT application in Nigerian secondary schools. It particularly dwells on the importance of ICT and the causes of low levels of Information Communication Technology (ICT) application in Nigerian Secondary Schools since improved secondary education is essential to the creation of effective human capital in any country. The need for ICT in Nigerian secondary schools cannot be overemphasized.

In this technology-driven age, everyone requires ICT competence to survive. Organizations are finding it very necessary to train and re-train their employees to establish or increase their knowledge of computers and other ICT facilities (Adomi and Anie, 2006). This calls for early acquisition of ICT skills by students. The ability to use computers has become an essential part of everyone's education. Skills such as book-keeping, clerical and administrative work, stock-taking, and so forth, now constitute a set of computerized practices that form the core IT skills package: spreadsheets, word processors, and databases (Refell and Whitworth, 2002).

The demand for computer/ICT literacy is increasing in Nigeria, because employees realize that computers and other ICT facilities can enhance efficiency. On the other hand, employees have also realized that computers can be a threat to their jobs and the only way to enhance job security is to become a computer literate. With the high demand for computer literacy, the teaching and learning of the skills is a concern among professionals (Oduroye, N.D.). This is also true of other ICT components. New infrastructural techniques that use ICTs provide a different modality of instruments. For the student, ICT use allows for increased individualization of learning. In schools were new technologies are used, students have access to tools that adjust to their attention span and provide valuable and immediate feedback for literacy enhancement, which is currently not fully implemented in the Nigerian school system (Emuku and Emuku, 1999 & 2000).

However, there are developments in the Nigerian education sectors which indicate some levels of ICT provision and application in the secondary schools. For example, the Federal Government of Nigeria, in the National Policy on Education (Federal Republic of Nigeria, 2013), recognizes the prominent role of ICT in the modern world and has integrated ICT into education in Nigeria. To actualize this goal, the document states that government will provide basic infrastructure and training at the primary school level. At the junior secondary school level, computer education has been made a pre-vocational elective and is a vocational elective at the senior secondary school. It is also the intention of government to provide necessary

infrastructure and training for the integration of ICT in the secondary school system. It should be noted that 2004 was not the first attempt the Nigerian government made to introduce computer education in schools. In 1988, the Nigerian government enacted a policy on computer education. The plan was to establish pilot schools and diffuse computer education innovation first to all secondary schools and then to primary schools. Unfortunately, the project did not really take off beyond the distribution and installation of personal computers (Aduwa-Ogiegbaen and Iyamu, 2005). Okebukola (1997), cited by Aduwa-Ogiegbaen and Iyamu (2005), concludes that the computer is not part of classroom technology in more than 90 percent of Nigerian public schools. This implies that the chalkboard and textbooks continue to dominate classroom activities in most Nigerian secondary schools. The Federal Ministry of Education has launched an ICT-driven project known as School Net (www.snng.org) (Federal Republic of Nigeria, 2006; Adomi 2005; which was intended to equip all schools in Nigeria with computers and communication technologies. This also applies to the African Summit of the World Economic Forum held in Durban, South Africa, the Partnership for African Development in June, 2003.

Problems faced by Educational Managers in Utilizing ICT

Even if the awareness is there, Onwubiko (2006) has posited that there are some problems associated with utilization. These general inadequacy in the level of relevant infrastructure; a largely exploitative local computer market and unsatisfactorily after sales maintenance and support, an inadequate pool of relevant technical staff and problem of their recruitment and retention; and the non-integration of ICT into the process of teaching and learning in our tertiary institutions.

Diverse Source of Knowledge and Students Academic Performance

Diverse source of knowledge is made up of distinct characteristics, qualities or elements. Diverse source of knowledge is a teaching/learning that is engaging, relevant, multicultural and appealing to a variety of modalities and learning styles, which in turn works well with students regardless of students' racial, ethnic or socio-economic backgrounds. It is much about attitude and general approach as about specific techniques and classroom application.

Kimberly (2011) defines diverse source of knowledge as a form of learning that is inclusive and not exclusive and which work best in context with other ideas and

concepts not in isolation with the adoption of new technologies in teaching and learning in the classroom settings such as table of knowledge.

Schools are clearly making great efforts to increase students' academic performance through diverse source of learning that are being developed. The influence of diverse source of learning on students' academic performance has made two particular significant changes in response to Academic Management Innovations. The first is the focus on "life-long learning" and "learning to learn" and the second is on equity of student outcomes. Through this, the students' activities, techniques and goals are interactive and inter-disciplinary, realistic rather than esoteric. Diverse source of knowledge allows students to generate new ideas, inject new or added meanings to ideas of the past and adopt a pragmatic rather than a perennial's posture to knowledge. Most importantly, it empowers students to be actively involved in the processes of their own learning, rather than passively receptive.

Availability of Resources and Students' Academic Performance

Educational resources are freely accessible and are useful for teaching, learning, educational assessment and research purposes. They are materials used to support education that may be freely assessed, reused, modified and shared by anyone. However, resources in education can be grouped into two, namely; the human and the material resources respectively. The human resources here refer to the teaching (Academic) staff and the non-teaching (non-academic) staff in an educational environment. Also, the material resources here include, conducive environment for learning, classrooms, libraries, laboratories, relaxation centers, convenience and safety topography, financial strengths, buildings and equipment.

Availability of resources and students' academic performance has been a topic of considerable interest in educational sector. Schools are clearly making great efforts to increase students' performances academically through availability of educational resources. As indicated earlier, availability of resource in an educational environment constitutes the most important tool and indeed, the very essence of the management function particularly in educational and academic management respectively.

Availability of resources will affect students' academic performances positively in both the learners and the teachers. Adequate resources reduces the common problems of school management such as; uncompleted educational reforms, poor programme scheduling, lack of clear idea about available facilities, inaccurate

demographic figures resulting in either lack of places/ spaces for Students or wastages of spaces available.

A careful study on availability of resources would reveal that majority of the problems exists not necessarily because of lack of financial, human and material resources (as it is commonly believed), but because of poor management of available resource in an institution would make Students achievements a smooth and happy activity.

The Best Practices in the 21st Century

As innovation is considered central to firm's competitive advantage, innovation research has become a cornerstone of strategic management inquiry. Despite the recent surge in academic interest, management innovation remains an under – researched topic. Innovation is not a new phenomenon. Arguable, it is as old as mankind itself. There seems to be something inherently "human" about the tendency to think about new and better ways of doing things and try them out in practice. Without it, the world in which we live would have looked very different.

In spite of its obvious importance, innovation has not always got the scholarly attention it deserves. For example, students of long- run economic change used to focus on other factors, such as capital accumulation or the working of markets, rather than innovation. This is now rapidly changing, however, research on the role of innovation economic and social change has proliferated in recent years, particularly within social sciences and with a bent towards cross-disciplinary.

As indicated earlier, innovation in academics management constitutes the most important tool, and indeed, the very essence of the management function particularly in Educational Management. Innovation is needed for all types of decision and at all levels in the academic management process. It is worthy to point out that most of the problems of academic management innovation in Nigeria may be traced back to the problems of poor management of information on education. In each Ministry of Education, School Board or Educational Institution, there are a wide variety of innovation in the form of correspondence, enrolment figures, accounting department/documents, staff personnel files, staff payroll, circulars, memoranda, minutes of meetings, working documents, student registration/examination records, list of courses, government polices and guideline, etc. Accurate and timely innovative practices on these would reduce the common problems of school management such as:

- Uncompleted education reforms.

- Poor programme scheduling.
- Ghost teachers, students, etc. on school registers.
- Lack of clear idea about available facilities or the facilities needed or that requires repairs.
- Difficulties in finding information needed to take a decision or to respond to an inquiry.
- Unpaid/overpaid teachers' salaries and allowances
- It can be strongly said that a good innovative system/practice lies at the center of proper management.

In conclusion, it is obvious that academic management motivation is needed in the educational management decision making process to:

- Identify goals, problems and opportunities requiring action(s) in education.
- Establish areas of need and cause of problems.
- Establish priorities and draw up plans for education.
- Analyses problems and project their consequences.
- Define, evaluate and select alternative course of action.

These and other reasons given earlier are perhaps why it has become imperative that modern educational managers be informational conscious, rich and embrace innovative practices if they will be efficient and effective in the management process.

Conclusion

The basic challenge facing educational managers in the 21st century is the ability to adapt and utilize the recent innovation in education for service delivery. Innovation in educational management constitutes the most important tool, an indeed very essence of management functions. Innovation is needed for all types of decisions at all levels of educational management process. It is worthy to point out that most of the problems of educational managers in Nigeria could be traced to inability to adapt, adjust and utilize the recent innovation in educational most especially in Ministries of Education, and School Board and accurately and timely adapt to innovation practice in education would reduce common problems of school management in Nigeria.

Recommendations

It was therefore necessary to recommend that;

1. Educational managers should be able adapt, adjust and utilize the recent innovations in the education industry.
2. School boards should provide adequate and timely adaptive innovation practices in educational institutions that would reduce common problems of school management in Nigeria.

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