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The Implications of Emerging Trends in Mass Communication and Media Technology for Education Sector in Third World Countries

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Abstract: Information and communication technology reinvented and redefined media communication nd there have being intended and unintended consequences associated with it. This study, therefore, investigates these new trends with a view to highlight their implications for Third World education sector. With the aid of secondary sources of information and content analysis, the study reveals that ICTs are costly and that its modernisation of communication ushered in ethical challenges such as phonography, hacking, data manipulations, cyber fraud, impersonation and non-professional media public influencers vide the social media into media practice. It further reveals the prevalence of inappropriate ICTs skills among media workers and the dissemination of false information and garbage as information. These have serious implications for the education sector in the Third World countries because ICTs and communication hold the key to educational transformation. Consequently, these trends will certainly manifest and exert their impact on the education sector also. Therefore, there is need for appropriate policy reformation in the Third World countries to drive compulsory ICTs education and skills for schools and provided required conditions and environment that enhance ICTs positive impact. This shall guarantee ethical principles in the sector.

Key words: ICTs, media communication, trends, Third World, education, policy

INTRODUCTION

The evolution of Information and Communication Technologies (ICTs) can be traced to the development of Electronic Numerical Integrator and Computer (ENIAC) in 1946 at the University of Pennsylvania. Information and Communication Technologies as used here refers to a broad range of technologies that are associated with computers, media information and communications processes. ENIAC was developed as a military equipment to enable the United States military compute its artillery firing tables. The services rendered by ENIAC necessitated the development of its commercial variant known as Sperry Rand UNIVAC I in 1951. When it was first manufacture, 46 pieces of the system was sold to different government agencies and large corporations in the USA. Its modernisation in the mid-1950s by the introduction of transistors to replace vacuum tubes revolutionised computer production, use and communication in general.

The innovation reduced the size, weight and cost of a computer while it propped up its processing speed and performance and multiplied its functions. This led to the introduction or production of hand-held and laptop computers in billions and has being shipped across the world for over two decades now. Depending on the type and capacity, these miniature and supersonic computers perform multi-million operations in a second. The categories of such operations include simulations, reproduction, mathematical, logical or graphical operations.

These operations have continually changed the way people think, work, play, learn and live around the world. This is because their processing abilities or powers have continued to alter and redefine transportation, communication, education, commerce, politics and war across the world (Kozma, 2010). In the communication sector for instance, it led to the upgrading of analogue telephone system that was introduced in the 18th century to a mobile cellular phone in 1979. This orchestrated the introduction and production of many other communication technologies as accessories to both computers and mobile phones. These technologies converged with the computer to generate the World Wide Web and internet connections in 1990 at a research laboratory in Switzerland. The convergence ushered in the era of new media that decentralised and democratised communication wherein people from different locations,

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status, professions, races, ages and genders communicate and collaborate with each other unhindered. This relationship laid the background for the emergence of new knowledge and information societies that have continued to transform and change socio-economic and political landscapes (UNESCO, 1998).

Therefore, two forces, i.e., Information and Communication Technologies (ICTs) and education, hold the key to national and international processes and development. ICTs as used here include but are not restricted to internet service provision, telecommunications equipment and services, IT equipment and services, media and broadcasting, libraries and documentation centres, commercial information providers, network-based information services, computer hardware and computer software (UNDE and SADPADM, 2008; Khan *et al*., 2012). On its part, education refers generally to"a form of learning in which the knowledge, skills and habits of a group of people are transferred from one generation to the next through teaching, training or research". It is a phased, (i.e., preschool, nursery, primary school, secondary school and higher institutions) human experience that alters the way one thinks, feels and acts.

The emergence of ICTs prone information society nurtures human capital development, improve administration and service in public and private establishments, promotes culture, transforms education and supports economic growth. It is the vehicle for growth, development and transformation. They drive innovations, policies, communication and change in all areas of life and relations (Jhurree, 2005). Their use tends to enhance the pedagogies and the development of a '21st century skill set' particularly in the education sector. In the sector, ICTs tend to expand access, enhance equality and improve efficiency of teaching, learning and research as well as equip users for a technology-driven society and global community (Watson and Watson, 2011).

The relationship between ICTs and education is symbiotic in nature. ICTs are products of education curriculum, i.e., teaching, learning and research. On the other hand, their integration into the education sector tends to transform management, processes, programmes, teaching, learning and research (Khan *et al*., 2012). Although, some scholars like McRobbie and Thomas, Peat and Franklin argue that ICTs do not produce desired impact on educational transformation. However, others like Apkan, Bork and Thompson contend that they exact positive impact on school activities and products if their users apply them appropriately.

It holds, therefore, that the impact of ICTs depends on certain pre-conditions or factors and this makes ICT a dependent variable. The implication of this for education particularly in the Third World is that those factors or conditions must be identified and provided for policy formulation, implementation and supervision. This is of a great significance for the Third World countries because of their inability to resolve challenges in extrapolating the products of education for purposes of promoting national economic, social and political development plans. These challenges can be resolved through the integration of ICTs. Therefore, ICT's integration into media communication and its associated trends tend to highlight the necessity to embrace ICTs innovations, products and programmes for the education sector in the Third World. Lewin (1997) presented this implication as follows:

> The challenge is to imagine, demonstrate and finance ways in which ICTs can permeate learning opportunity and infrastructure to lessen dependence, democratise access and promote the kinds of knowledge acquisition that are at the core of development

This process requires policy changes or reforms that will address these expectations. The policy change should come as stakeholder's response to their educational needs and challenges and as response to emerging trends that are associated with ICTs application. The policies should address the needs for and types of ICTs adaptation, the challenges associated with their use, student-cantered learning, active learning, project-based learning, ethics and inquiry based learning among others. This requires careful planning and effective policy choices. It is not a question of the need for ICTs integration in the education sector but when and how it should be done to harness its potentials. This study offers a set of guidelines to the trends that shall propel such policies through its highlight of emerging trends in ICTs-media relations.

The benefits of ICTs in the educational sector: According to many scholars such as Bush and Mott (2009) and Reigeluth *et al.* (2008), the benefits of ICTs in the education sector are many and translate into many opportunities also. These benefits and opportunities include, ICTs:

Provide access to high quality learning material and to remote sites which makes it possible for learning materials developed anywhere to be made accessible to learners everywhere.

Provide open and easy connectivity between learners devoid of geographical limitation and this provides opportunities for free flow of information across the globe.

Enable interactive learning that transcends simple access to information and this provides opportunities for the development of quasi intelligent learning programmes.

Create flexible learning programmes that are convenient to users which removes time constraints on studies and allow for the participation of non-traditional learners.

Remove special constraints imposed on studies by school environment and provides opportunities to eliminate costs in travels, phobic gender and racial experiences and marginalisation among others.

Provide for the development of intermediary services to support learning which provides opportunities for the use of networks of teachers and advisors in curriculum activities.

Make rich data available to teachers and students which provides opportunity to generate formative data on learning progress, provides adaptive learning that matches student's needs and actions and enables the assessment of student's progress and performance.

Improve efficiency and effectiveness in service delivery with reduced costs. Provide enhanced learning environment: The nature of ICTs demands the provision of certain infrastructure and security system before they are properly installed and used. These pre-conditions for their integration create favourable and motivating learning environment for teachers and students (Williams, 1995).

Provide effective instrument for knowledge delivery: Through the use of ICTs, teachers and students embark on effective teaching, learning, learning and research even in proxy. Libraries located thousands of miles away can be accessed, assignments given, written and submitted, lectures delivered and examinations conducted with ease. ICT is the only instrument that made e-Learning possible.

Provide effective administrative tools: ICTs provide effective and efficiency administrative delivery system in schools. They are being used for admission processes, personnel management and record keeping, accounting activities, lesson planning, preparing hand-outs and examination administration among other functions.

Provide access to literacy information: ICTs provide increased access to inclusive education in schools. It breaks the barriers created by distance, disabilities, culture, race, gender and socio-economic backgrounds against information gathering and circulation in the course of teaching, learning, research and publications. It simplified communication without restraint.

Enhance graduates employment potential: ICTs make graduates employable in the increasingly competitive job market. Many establishments are currently making the acquisition of computer knowledge and skills a basic requirement for recruiting staff. In addition, it makes them self-employable because most ICT graduates find it easy to establish small private enterprises.

Transform the modes of learning and educational service provision which provides opportunities for creating different qualitative learning environments. Thus, teachers and students can choose which networks to be part of and take the initiative in setting up their own networks. Equally, this provides opportunities for possible connection to strategic networks of key educational actors such as advisors, curriculum developers, senior teachers etc.

Icts in the media; Trends and challenges: The foregoing reflection on the evolving ethical issues in ICTs integration in media communication is considered from two divides, namely: the ICTs producers and IT users. The application of ICTs in media communication led to the emergence of new trends and challenges that negate the old era in the media landscape. These trends are characterised by "Ubiquitous news, global information access instantaneous reporting interactivity, multimedia content and extreme content customization" (Pavlik, 2001). This trend is called participatory era in information gathering and dissemination. Scholars like Asekun-Olarinmoye *et al.* (2014) and Bowman and Willis (2003) conceptualised it differently as Collaborative Citizen Journalism (CCJ), personal publishing, grassroots media, networked journalism, open source journalism, citizen media and participatory journalism. In this era, the audience are news consumers, news generators and news broadcasters/disseminators.

The new communication era undermines qualitative information generation and dissemination because of the involvement of untrained professional due to unrestricted access to internet enhanced devices. Many of them are churning out chaffs and anything within their reach in the name of information while consumers are left with barrage of garbage information as news. This leads to the emergence of pseudo journalism because these users who generate this garbage of information contents do so without professional training and consideration of media ethics. They tend to devalue journalism and consequently render it less professional.

This new era and its unrestricted access to internet enhanced devices create boundless opportunities in information generation, analysis and transmission at cheaper, easier and more flexible rate. With the

processing of information gathering, transformation and dissemination on mobile systems through portable gadgets, a journalist can record, process, edit and transmit news materials from the field as though he is working from an office. This era, therefore, ushered in mobile media communication.

The consequence of this mobility is the elimination of the prevailing demarcations among journalists and in journalism. That is, unlike the old era where journalists are categorised in terms of where they work, i.e., television, radio or newspaper and publishers and producers are distinguished from consumers, it is evident in the new media that publishers, producers and consumers seems to be the same people without distinction (Deuze, 2008). The system is democratised, the various divides operate on the same platform and tend to consume the same information on the same blog and/or website. This scenario is facilitated by the hypertext and interactivity character of the era which provides a network of links within, outside, above and beyond ones area (Lister *et al*, 2009). This trend results to impunity in media communication that enable non-media professionals and some professionals too to neglect, violate and disregard professional codes, ethics, values and standards. This neglect possesses direct threat to mainstream media organisations.

Among these ethical challenges is the emergence of software piracy. The high level of disparity between the value of Dollar and Naira and the inevitability of ICTs application in daily productive and services activities made ICTs costly for media users in Nigeria. Consequently, ICT professionals opted to flood the market with pirated products and software against the ethics of the profession. On this, they import and spend less to purchase the products but maximise profits in their sales in triple-fold. Complementing this, ICTs users equally engage in software piracy. Employees or workers in media organisations like others copy software from office computers for their personal use at home. Consequently, ICTs market in Nigeria is filled with pirated and inferior copies of ICT products that are highly ineffective while the sale of original software and other ICT products have dropped very low.

Added to this trend is the inappropriate use of ICT resources in the office. Professional ICTs employees use official resources to surf popular Web sites that are at variance with their jobs such as chatting, watching of pornography (Stephanie, 2008) and playing of computer games among others. Some of these are criminal in nature while such activities deplete productivity, time and official resources for private pleasure.

The application of ICTs in media communication has equally led to inappropriate sharing of information. Capurro (2006) observed that the basic moral principle of the information environment "is to share knowledge or the right to communicate in a digital environment which includes the right to preserve what we communicate for future generations." However, the illegal use of corporate ICTs resources for personal/private concerns subjects the system to hacking activities and exposes corporate classified information or data to the public. Examples of such data include salary information, staff health records, performance ratings, account information, staffing projections, manufacturing processes, product formulas, tactical and strategic plans and research and development. The access of this information by an unauthorized party violates privacy policy and raises ethical issues.

To cover the illegal activities of ICTs users, they do so with hidden identities. They do so anonymously and/or with fake identities that perpetuate deception in media communication. Consequently, the new media communication is fraught with easy dissemination of electronic message that are characterised by falsehood, borrowed, encrypted and fake identities (fake IDs) without restriction. Cooper (1998) summarised this experience as follows:

> 'Numerous ethical problems such as digital manipulation, impersonation, false advertising, puffery, hype, masking, and data massaging abound. The deliberate and accidental substitution of illusion for reality and propaganda for proper data, have become far easier. Documents may be altered without detection by long-distance ghosts and realistic, albeit artificial, images may be quickly synthesized'

In addition, e-mail bombs, viruses, harassment, laundered money invasion of privacy, libel, obscenity and other ethical problems are now widespread or prevalent.

One of the major consequences of the hidden identity syndrome in media communication is the emergence of defamatory activities. Media communication became prone to slander and libellous publications due to character assassination that is orchestrated by anonymous smear campaigns. The real perpetrators of these crimes are not apprehended or prosecuted because fake identities, yet the phenomena are on the increase.

These illegalities render communication policies impotent. These trends made it impossible to implement relevant and existing codes of ethics, guidelines, norms, standards and policies for internet and cyberspace

practice in the media. This is because the technologies, their users, consumers and servers which represent different but multiple languages, ethical guidelines and transient sites, lack central management and control point. Many countries and civilisations have their different internet gateways and satellite systems that pursue some forms of nationalist and often conflicting interests. Thus, what one considers unethical, the other may consider ethical. Consequently, lack of harmony in the management of digitalised media multiplies the emerging ethical challenges in the system.

Similarly, the decentralised and liberalised nature of the internet has led to the emergence of many racist sites, gender biased chat-groups, holocaust denial locales, etc. These which can be limited by local policies, national laws and international agreements are prevailing uncontrolled in the ICT propelled media.

The media is now fraught with anti-democratic activities. The superlative influence of the new media on people's socio-economic and political lives has placed the control of democratic process in the hands of the owners and operators of major media communication outfits. By implication, this concentrates power in the hands of few mega-hackers who sitting in their remote apartments, distort/alter electoral data and history and erase power-points records via hyper-virus. This generates conflicts and crises such as the United States of America's case. Similarly, it has led to computer theft and hacking of people's bank accounts.

Controlling these trends is also problematic. According to the Anonymous (2012) for instance, there are many ICT and media communication policies in Nigeria but these policies are uncoordinated and ineffective. Similarly, there are many but unrelated laws enacted to guide these policies and different aspects of the communication sector. These uncoordinated and fractious policies and laws generate gaps, lack of cohesiveness and incomprehensiveness that render the policies and laws ineffective support bases for the converged ICTs and media communication in Nigeria.

Accompanying trends in the new media include the solidification of Third World dependency. The new media in Nigeria is fully dependent on foreign technologies. ICTs and media Investors which are mostly multi-nationals, only relocate their facilities to the Third World without transferring the ability and skills to innovate. This tends to deepen the challenges of rapid telecommunications development which include lack of science and technology, capacity for operation and maintenance of facilities, technical and managerial activities etc.

Further, the patronage for and consumption of hard copy media prints such as newspapers and magazines and analogue media productions are geometrically decreasing (Abati, 2016; Dare, 2011). In a country of over 250 million people like Nigeria, only about 300,000 people patronise and/or read newspaper in hard copies daily. This scenario is a negation of Nigeria's experience between 1975 and 1999 (Ekeng, 2010; Popoola, 2010). Majority of Nigerians prefer to read these news dailies in the internet. This has led to a high rate of media mortality in Nigeria. Accordingly, Owolabi and O'neill (2013) observed that out of 39 newspapers established in Nigeria between 1937 and 1960, only the Tribune is surviving till date. Similarly, out of 168 newspapers and 48 magazines established between 1960 and 2008, "only 43 (28.5%) newspapers and 15 magazines (31%) are still operating" till today (250). Further, the total number of newspapers and magazines circulation in Nigeria "has been on a steady decline, hovering around half a million in a country of nearly 140 million" (Dare, 2011).

Implications of trends in the new media for Third World education sector: According to Trucano *et al*. (2012), ICTs caused a paradigm shift from:

> Mass production and consumption of standardized goods and the hierarchical structuring of business, governmental and social institutions to a paradigm based on the collaborative, customized creation, sharing and use of new knowledge by a large, diverse and distributed population is creating tremendous pressure for change on all components of the education system. It has profound implications for what is taught, how it is learned, how teachers teach how students are tested and how schools are structured

Thus, its integration in media communication has great implications for education in the Third World whose educational sector has being experiencing very sluggish development. These implications are tied to emerging trends in the new media.

The literature is conversant with these emerging trends in technology use in media communication and their implications for the education sector but largely for advanced industrial societies than for the Third World countries. Nevertheless, experiences in the Third World countries reveal that there is a growing trend in most schools where students and teachers prefer to use social networking sites, especially, Facebook for sourcing information. In fact, many of their education systems filter the use of social networks in schools while "increasing numbers of schools are establishing an official 'Facebook presence" (Trucano *et al*., 2012).

Therefore, the new technologies hold high potential for educational change due to their knowledge creation ability that is aligned with emerging technological needs, economic, social and political paradigm. ICTs capabilities can assist policy-makers to respond to the need for changes in curriculum, pedagogy assessment and administrative structures/processes which allow students to personalize instruction, learning and research templates for greater success or performance. This enables teachers and students to engage in collaborative exercises and generate new knowledge products.

The integration of ICT in media broadcasting was an open ended practice that did not specify what is needed and for what purpose. This provided the background for its abuse of the media communication industry. Therefore, considering the technological backwardness of Third World countries, its adaptation in education must be defined and its purposes, the contents of its adaption and its delivery system in schools must be described. This classification must be driven by needs and contents which the ICTs are intended to serve. This will specify the actual technology need, the process and system of its application and the expected results.

The factors that will determine this choice of ICTs for use in the education sector includes: ease of access, i.e., can the technology be accessed from rural or remote educational areas and by all, technology and people driven education system, i.e. are the education processes and contents amenable to technology use and are people trained for its use, participation in policy formulation, i.e. did the teachers, students and administrative staff participate in the evolution of the integration policy, appropriateness, i.e. is the technology an appropriate medium to deliver and support and sponsorship, i.e. who will sponsor its procurement.

The development and integration of ICT infrastructures in media communication created a panorama of opportunities for schools in the Third World to spontaneously access and compare school's curriculum, educational services, books and their prices in order to make choices (Lewin, 1997). Similarly, they enhance comparative study and research among teachers and students in the Third World. Therefore, they will depend on the regime for their activities such as administration, teaching, learning and research.

Further, schools in the Third World shall embark on the transformation of their analogue to digital libraries. This will enable them to access available educational materials in the advanced developing countries, allow schools with common interests to share educational experiences and research activities, engage in e-Conferencing and workshops and run exchange programmes. Like trends in the ICT-media relationship, this scenario will led to the emergence of direct threat to the survival of printing services, hard copy circulation and analogue libraries, prevailing reading culture and qualitative education in Third World countries.

The trends also highlight a major challenge that education sector in the Third World will encounter in attempts to introduce computer based technologies. Like in the media communication, the attempts will be hampered "by cost, constraints on information processing and lack of connectivity" while individual ownership of the technology will explode and internet connections democratised. This shall lead to abuse and emergence ethical challenges. Therefore, stakeholders in the sector must explore stable sources of sponsorship and/or finances.

Similarly, another implication of new media trends is that education services in the Third World shall be increasingly democratised wherein the processes of teaching, learning and research can be pursued from any location by individuals provided there is internet connection. Thus, people can engage on e-Learning, study and research in advanced countrie's schools from any location in the Third World. Like in the media, it created a new generation of education internationalisation in the Third World. Students no longer have to travel and stay for extended periods in advance countrie's institutions to obtain international qualifications. Schools within the Third World can and do embark on distant learning programmes. This scenario closes the era of governments deciding what students should study both in disciplines and contents which colonialism introduced in the Third World.

Equally, the new trends have created demands in Third World countries for highly skilled professionals who can provide ICT based services competitively in their education sector. This need for skilled professionals generates new educational demands for skills in language and information management (Lewin, 2000). The implication is that schools should either lay-off workers that are not ICT literate and employ new ones or they should introduce in-service training for them to acquire ICTs knowledge and skills. They also have the option of employing selected but few ICT professionals as staff to join the old ones. Whichever option they take, this calls for policy reforms and financial adjustments.

CONCLUSION

Information and communication technology has being a power instrument in the transformation and development of all sectors of human endeavours and relations. Its media integration orchestrated gradual but

radical changes in the frameworks, processes and rules governing information gathering, processing, storage and dissemination. Information generating, processing and dissemination became democratised and internationalised. This led to high level decline of analogue and print media communication and to the emergence of pseudo journalism that is bereft of qualitative information. The era is characterised by impunity and activities that are fraught with ethical challenges and weak or absence of control of media activities. These trends have serious implications for Third World education sector.

The impact of ICTs on media communication implies that they hold the key to the transformation, development and growth of the education sector in the Third World. The new trends in both sectors are very similar in the advanced developing countries. Consequently, it is expected to be the same. Therefore, stakeholders in the Third World education system should originate policies to address the various ethical challenges associated with the use of ICTs in teaching, learning and research. Such policies should attempt to provide the necessary conditions required for ICTs positive impact such as floating programmes that will resolve the problems of cost, constraints on information processing and lack of connectivity etc. The inability to do these will undermine the impact of ICTs in the development of education system in the Third World.

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