INFLUENCE OF ICT ON TWENTY-FIRST CENTURY PUBLISHING

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Abstract

The study examines the extent information and communication technology (ICT) has affected 21st century publishing. With the advances in ICT, electronic books and publishing, electronic journals, and the internet, which have launched the world into an information age; facilitation of quick and easy information and information resources for publishing is assured. This study adopted qualitative methods of participant observation (for select printing and publishing houses) and focus group discussions (with students of select tertiary institutions) to explore the implications of, access to, use and operations of information and communication technology. It was discovered that exposure to every bit of a published material on the platforms of information and communication technology (ICT) could in one way or the other influence hearts and mind or even shape opinion in this 21st Century age of globalization, while the application of ICT reduces man power and equally saves time. The study recommends the adoption of ICT in every aspect of the publishing environment as well as training and retraining of publishing personnel.

Keywords: Globalization, ICT, information age, publishing, twenty-first century.

Introduction

Information and communication technology supports activities involving information. Such activities include gathering, sharing, processing, storing and presenting data. Increasingly these activities also involve collaboration and communication, which is a collection of tools and devices, used for particular tasks, eg, publishing, course delivery, transaction processing etc. Publishing implies the dissemination of literature, music, pictures in the activity of making information available to the general public. Traditionally, publishing refers to the distribution of printed works such as books and newspapers. With the advent of digital information systems and the international network, the scope of

publishing has expanded to include electronic resources such as electronic versions of books and periodicals, as well as micropublishing, websites, blogs, video game etc.

The influx of information and communication technology in all spheres of life cannot be over-emphasized as it has reshaped all aspects of life. It is therefore pertinent to state that these ICTs are useful to students and the publishers who are constantly publishing reading materials for the consumption of students. The use of ICTs in various endeavors has enabled easy access to information especially for learning as regards this study, fast and efficient communication, and minimal error in computer related works. Many studies have been conducted as it pertains to the influence of ICT in publishing. Publishing is becoming a complex, multi-channel, rich media content delivery business, which cannot thrive without the presence of Information and Communication Technology (Bennett, 2005). Publishing in the 21st cannot wholly be done the old way which is manual due to the current trends which are more effective and more efficient when used properly. Publishing, therefore must consider the students who are the end users of published materials.

In this age of globalization, the importance of information and communication technology (ICT) to people generally, students and traditional publishing industry in particular cannot be de-emphasized. Thus is true because ICT facilitates quick and easy access to wide range of information/information resources world-wide. In fact, it is now difficult to imagine a world without information and communication technology. The accelerated adoption and use of ICT has resulted in the globalization of information and knowledge resources. Bibliographic databases, full-text documents, and digital library collections are always available to users.

In this digital age, tertiary institutions strive to be up-to-date in their curricula. The provision and use of ICT is part and parcel of the entire system, to both the students and the institutions. It is one thing to recognize the importance of ICT and another to know if it is effectively used by students and academics. If ICT is put to effective use, the essence of acquiring it is to large extent justified (Unagha, 2011).With advances in ICT, electronic information in the form of electronic books, electronic journals, and the internet have launched the world into an information age. No institution or organization can rely only on traditional printed information resource to perform effectively and efficiently. ICT is a significant development that provides tools for managing the avalanche of information generated by modern society.

ICT provides libraries with capabilities for the location of information, storage and retrieval and dissemination of information. Students at all levels find the use of Information and Communication Technology useful for very diverse reasons, as they are able to do assignments with internet resources and sources, do term papers, communicate and collaborate with fellow students on educational activities and so on. ICT is often perceived as a catalyst for change, change in teaching styles, change in learning approaches

and in access to information (Watson, 2005). The relevance of ICT students in particular cannot be undermined.

It is equally important for students and publishers to understand these technologies and their channels of communications, which are the paths-the physical media-over which data travels in a telecommunications system from its source to its destination channels. With the provision and utilization of communication technologies such as mobile phones, satellite dishes, GPS in our homes, offices, organization, it is therefore necessary for the users (students, libraries, other workers, and other organizations) to know how they work, and the communications channels through which they are useful to the users. It also behoves on publishing industry and her operators to tap into these technologies and their communications channels and incorporate them into their services so as to effectively cater for the information needs of their patrons in this information age.

A similar ambivalent stance could be applied to the increasing number of students in Nigerian universities that continue to have access to mobile phone, computers and using the internet more (Ihejirika 2007, Adomi, 2006, Ede and Ogiegbaen, 2005). The fact that more students own, use and access Information Communication Technologies (ICTs) is a welcome development, but there is bad news as well. Though information and communication technology has been variously defined, it is loosely used in this paper to include the mobile telephony and the Internet and its features such as the email and Facebook.

Throughout the world, new information technologies are making it possible for the information 'have nots' to catch up and plug in to this increasingly globalized and accessible system, whether it be in Thailand, the fastest growing mobile communications market in the world in 1995, or in places like Hong Kong and Singapore which have joined the top ranks of the world's economic Centre. Despite the costs involved, and the electrical power needed to drive the technology, expenditure needed for communication is in fact comparatively cheap, or certainly affordable, and is becoming more so.

As one scholar has pointed out, this situation may help 'the poor to move beyond being simply a passive audience'. Cheaper and more accessible technologies allow individuals and groups to become their own message makers. Alternative communication networks link together grassroots and policy groups throughout the globe, working on environmental peace and relief efforts and forging together interests, and activities into a new global civil society. (Hasan, 2010). Hence, this study has been conducted to investigate the influence of ICT in publishing.

The Problem, Objectives of the Study and Research Questions
Twenty-first century's Information and Communication Technologies (ICTs) have changed the entire system of publishing production in Nigeria. The publishing and press business are affected in one way or the other by information revolution. Information is the primary input as well as the final input of publishing industry. Therefore, it will be an

exaggeration to say that the radical changes brought in the realm of information and publishing through ICT revolution are bound to affect publishing more than any other related industry. The use of advanced technological commercial printing publishing machinery has also enabled publishing organizations or industries to print copies with well-defined properties, capable of producing high precision graphic prints and publishing along with other direct mail publishing services; the modern technological digital publishing machines are above copies per hour as against the old manual publishing and printing. Thus, the presence of ICT in publishing of Nigeria has presented challenges and opportunities as well as development.

This cumbersome process affects the financial lease of the industry as well as work force. However, when Information and Communication Technology is discussed, it puts people out of jobs. The reverse is often the case. This technology takes over mechanical assignment of publishing and frees individuals for more intellectual productive work. The complexities of modern technology have produced great mathematical, scientific and engineering problems and hence, enhanced publishing of books, magazine and newspapers.

In this vein, considering the problems facing the 21st century publishing organizations or industries with reference to the influence of the information communication technologies (ICTs), this study investigates the influence of the use of information, and communication technology in publishing processing and production. Therefore, to what extent have the information and communication technologies users or operators influenced within recent time?

The objectives of the study are firstly to investigate how often publishers use ICT's for publishing? Secondly, to ascertain the extent of influence of ICTs on 21st century's publishing process and production. In the third place, it is to ascertain the types of the influence of ICTs on 21stcentury publishing. Fourthly, to determine the factor (s)that impinges on 21st century publishing process and production by the ICTs.

The following questions guided this study: (a) How often do publishers use ICT's for publishing? (b) To what extent do Information and Communication Technology influence the 21st century publishing? (c) What are the types of the influence of Information and Communication Technology on 21st century publishing? (3) What factors impinges on the 21st century publishing process and production by the ICTs?

Review of Literature
ICT is an extended term for Information Technology which stresses the role of unified communications and the integration of telecommunications, computers as well as necessary enterprise software, middleware, storage and audio-visual systems, which enable users to access, store, transmit and manipulate information. However, ICTs are constantly evolving on an almost daily basis. The broadness of ICT covers any product that will store, retrieve, manipulate, or receive information electronically in a digital form.

On the Information Communication Technologies, influence and effects, there is no doubt that the Information and Communication Technologies of mobile telephony, Internet, indeed the computer-mediated communication (CMC) come with a lot of advantages. Principal among the advantages is the ease and freedom of communicating relationship with unseen "others". As Tompkins (2003:33) cited in Omenugha (2010) notes: "we create long distance relationships, even communicate, as if we were physically present to one another". The Internet, many suggest is fascinating as it provides more efficient ways to share information and knowledge, gives a heightened presence and visibility for Africa and less isolation for those studying and working in African universities and living in rural areas (Omotayo, 2006). Africans in diaspora engage in national debates by reading local papers online, participate in electronic debates and discussion groups. In African universities, teachers use the Internet to update their lessons and students use the technology to access information not available online (Vittin, 2002) in (Omenugha 2010). By implication, the Internet is at the doorsteps of many African countries, Nigeria, inclusive, affecting them in more ways than would have been imagined.

The information and communication technologies allow access for the students and academics to databanks, International research network, and better visibility for researchers and self-learning opportunities. At universities, new relations between students and professors are beginning to form because of the "equal playing filed" in accessing information that the Internet provides users (Sefton-Greene 1998) in Omenugha (2010). Sometimes, students can even educate their teachers by using suggest to-date information they have accessed on line. The use of ICT too, some suggest increases independent learning, making learners more responsible and focused (Awoleye et al. 2008). It also builds a good relationship between educators and learners thereby increasing academic excellence, though without consultation to traditional publishing resources.

Ihejirika (2007) and Adomi (2006) cited in Omenugha (2010) however discovered negative trends in the form that once students get addicted to digital facilities for learning, they don't easily learn from conventional method. Some educators complained that students had become lazy as they hoped to get all the formulas and information they wanted from the Internet. Therefore, it is thought that ICT has on some occasion discouraged hard work and the spirit of innovativeness and makes students less functional in a situation where computers are not available. The Internet offers direct exposure to some of the reprehensible facets of the West such as pornography, criminal networks, Racist networks, religious sects, prostitution rings, sex tourism and services offering young Africans the chance to find Swiss or German spouse.

Many researches have been conducted to show the prevalent modes of appropriation of ICT by young people. Ahmedani (2009) using qualitative methods of in-depth semi-structured interviews examined the impact of IT on the psychological development of 13-14 years old. The study found out that regardless of gender, race, religion, family, or school location that students have access to the information technologies and make significant use

of cell phones, email, video games, instant messenger services, etc. Students too use them for communication and entertainment, especially in (1) building social relationships (2) stimulating individual and group activity and entertainment, and (3) managing stress and frustration. ICT is infused into the psychological and moral choices of youth that impact their behaviors including decision-making processes, adherence to parental rules, and establishment of personal boundaries. It is apparent that ICT is firmly established in every aspect of their lives.

Ihejirika (2007) cited in Omenugha (2010) using Nigerian students in the University of Port Harcourt through participant observation, social surveys and focus group interviews conducted on both students and staff of the university examined the way the university students appropriate the new information and communication technologies and the type of identities emerging from these uses. The study revealed that Internet are the prevalent ICT used by the students from which some identities have emerged, confirming that like their global counterparts, young people in Nigerian universities are attracted to the New Information and Communication Technologies. They are bolder, girls have become more materialistic as they go for latest model of phones unlike the boys and to keep on with the consumerism tendency they rely on their rich boyfriends and sugar daddies. Also emerging in Nigerian tertiary institutions is the yahoo boys' identity of those who try to beat the system by manipulation of computers and dabbling in '419' activities. His study also found out that the use of the ICTs especially the mobile phones and computers are making students lazy giving them the impression that life is simple. They engage in flashing technique (involving calling a number and allowing the phone to ring once or twice before putting it off. This will alert the receiver of the caller's intention to be called back), store things in the phones rather than try to memorize and allow the economizing words used in text-messaging and chatting to infiltrate in their class work. Ihejirika however fails to give detailed examples of these influxes hopes this study would fill.

On the Concept of Publishing and Society

Like any other concept, there is no generally-accepted single definition of publishing. It is difficult to define publishing in a way that is satisfactory to those who are in it, much less to those who know little or nothing about publishing. Is it a profession, a trade, or in a broader sense, an industry? It all depends, of course, on who is doing the defining, or what kind of publishing is under consideration, or the particular point of reference to the complex, hybrid enterprise that publishing really is. But, regardless of a proper definition, it is the combination of professional and commercial activities that makes publishing so attractive to so many of us who know and love it as occupational way of life. (Ugocha, 2014: 2).

Publishing is one of the major business activities in Nigeria. Publishing is concerned with the main features and attributes of book production which invariably are the purveyors of information, knowledge, vision, dreams, imagination culture, norms and values of the society. In this book, we are mainly concerned with the publishing and

printing of books. A society without publishing and printing industries suffers from perpetual loss of information and recorded knowledge and a society without these critical resources is bound to remain non-literate, ignorant, superstitious and underdeveloped; hence, there is need to place great premium on the development of the publishing industry as its development will usher in a multiplier effect on the national economy. Publishing as an economic business ventures is very important for national and international development and co-operation because the product of publishing, which is book materials, cross borders. Conventional publishing also provides employment for authors, publishing personnel, bookshop employees, printers, paper manufacturers and many other people. Therefore, one of the best ways of ensuring the development and advancement of publishing and printing activities in Nigeria is by introducing students of Library and Information Science who are going to be future business entrepreneurs and other scholars that want to be prospective publishers and printers, to the basics of publishing and printing. But issues and factors like poor power supply, manpower for technological operation, poor facilities and training, impinge on the business of publishing; especially in the developing nations. (Ugocha, 2014).

Information and Communication Technologies Revolution
How did the 21st century Information and Communication Technologies Revolution differ from the Industrial Revolution of the 19th century? The Industrial Revolution ushered in the factory system at the hub of which was the division of labour. Mass production of goods and their mass distribution in the markets of the world were the driving forces. Both depended on massive labour recruitment. This was the origin of the need for the mass media and communication, which would promote the mass-produced goods to potential customers in cities and villages. The manufacturing industries were labour-intensive, while the new service industries were capital intensive, new modes of energy like steam, gas and electricity, the railways, the automobile and the aircraft.

Where the economy was concerned, more workers were involved with information-related industries (travel, tourism, hospitality, banking, insurance) than the production of commodities for mass consumer market. This was because such production had been move to developing countries where low-paid labour was easily available. Later this was known by the euphemism, 'outsourcing'. Industrialized economies were therefore gradually turning into 'information economics', they were non-polluting, were capital-intensive, and were oriented to 'service' rather than 'production'.

But it was the technological changes that made the new kind of social changes and economic changes that economic change possible. The innovations in information and communications, technologies brought about by the integration of telecommunications, mass media and computing, promised greater flexibility, greater efficiency and lower costs. The 'modern' revolutionized the entire stand-alone approach. It is an electronic device, which changes analogue to digital or electronic publishing and vice versa. It

brought together the media, the computer and communication technologies so that computers in different parts of the world could start 'talking' to each other using the international telephone networks and the supporting satellite and cable hardware. Electronic mail (or e-mail) and the Internet with its World Wide Web were developed in quick succession.

Convergence of the various possible, reaching its top in the multi-media system to common today for the transfer and exchange of information, data, graphics screen, or surf the Internet. One could now watch films and video on the computer screen, or surf the Internet One could also use the computer for sending and receiving fax messages, and publishing information resources, electronically. (Hasan, 2013).

Influence across borders and Socio-cultural Implications
Advanced Information communication and Technologies and the worldwide expansion of media markets create an urgent need to understand our emerging global media culture, 'the cross-pollination of national and international cultural traditions, and the new styles and genres developing in this content.

The same communication technologies operate differently in different national contexts, as they get absorbed into different cultural traditions, economic contexts, and political structures. Thus, is important to reflect upon the interplay between globalize and localizing forces in defining the contemporary and historic communication technology landscape. The emerging digital landscape poses significant challenge for those concerned with the notion of global culture. One hand, these new technologies potentially accelerate long-standing trends towards the world culture, insuring access to international markets. It continuously erodes traditional national identities and cultural values. On the other hand, the multi-directional character of digital Informational Communication and Technologies (ICTs) may open the global community to more diverse influences, enabling people to maintain stronger ties to their countries and encouraging stronger global consciousness. (Hasan, 2010).

Communication and Information Technologies were developed in advanced industrialized societies to serve their needs and interests. These societies needed capital-intensive labour saving technologies to make up for high labour costs and low populations. The 'new' technologies brought about speed, efficiency and a non-polluting environment. As the technologies became cheaper with greater volumes of users, business and administration needed fewer and fewer workers. Thus several workers were rendered redundant or were provided part-time jobs. The worst sufferers were women who worked as typists, stenographers, telephone operators, packers, etc. The low paid jobs were the first to go. (Hasan, 2013:674-675).

Thus, since the liberalization of ICTs was introduced in publishing within South-Eastern Nigeria, female hired multi-media and ICTs employment has increased. Hence most publishers and workers in the publishing companies will prefer an ICT driven

publishing to the traditional means of publishing. This is because it is easy, quick and efficient (Unagha, 2011)

Theoretical Framework and Methodology
The theories underlying this study are Technology Determinism and Diffusion of Innovation and Development theories. The concept of Technology Determinism is related to diffusion of Innovation and development, tradition and philosophy but expands the research by discussing on the essence Information and Communication Technologies (ICTs) issues rather than a particular topic. The basis of technology determinism theory is that active tradition searching for links between the dominant communication technology of an age and key features of the society. Thus, the history of communication technologies testifies to the accelerating pace of invention and of material and other consequences. Rogers (1986) cited in McQuails (2010) for instance, locates turning points at the invention of writing and publishing, the beginning of printing in the fifth century, the mid-nine tenth century start to the telecommunication era, and the age of interact communication, which begin with the invention of the mainframe computers in 1946.

The technology determinism theory propounded by Mcluhan (1967) offered new idea and insights into the implications of the rise of print and publishing medium while explaining also the significance of electronic media, digitization and globalization. The theory further stakes that key changes in modern history is identified with the determinant factor of information or communication technologies; which was connections during the rise of ideology and rational era of the eighteenth and nineteenth centuries: That is to say that communication technology is fundamental to publishing industry and the society at large. Why; because the sequence of invention and application of information and communication technology influences publishing direction and pace of social change which is identified as communication revolutions. McQuails, (2010). In relation to this study, we, focused on whether the communication technologies in the process and production of published resources determine or influences the social behaviors of tertiary students and well as printing and publishing houses

Diffusion of Innovation and development Theory describes the process of spreading any kind of new technological device, idea or useful information to portray globalization in the promotion of idea and consumer aspiration. The theory which was propounded and developed by Ryan and Gross (1943) and Rogers (1960) cited in Anaeto et'al (2008) suggest that diffusion research centers on the conditions which increase or decrease new idea, product or practice as adopted by a given culture; Thus, predicting interpersonal contacts which provides information and influence optional and judgment. According to Rogers, the innovation decision process is a mental process which an individual or other unit making decisions passes and the process consists of five stages: Knowledge – exposure to an innovation and some understanding of how it functions; Persuasion – formation of an attitude towards the innovation; Decision – activity resulting in a choice to adopt or reject

the innovation; Implementation – putting the innovation to use; and Confirmation – reinforcement or reversal of the innovation decision made.

Rogers (1995:265-266) in Anaeto et' al (2008) also specifies five adopter categories classifying individuals or other decision-making units in their rate of adoption of an innovation: Innovation – venturesome; eager to try new ideas; more cosmopolitan relationship than their peers. Early Adopters – respectable localities; usually highest degree of opinion leadership within the social system. Early Majority – deliberate; interact frequently with their peers but seldom hold leadership positions. Late Majority – skeptical; often adopt an innovation because of economic necessary or increasing network pressure. Laggards – traditional; most localite; many are near isolates; point of reference is the past. Bittner (2003) cited in Anaeto et al (2008) also opines that, in the innovation diffusion process, the 'media presents information that makes use aware of the existence of an item. From there, the person gets interested, constantly evaluates the item, takes a trial of the item and finally acquires it. Daramola (2003) cited in Anaeto et al (2008) sums it up by saying "the paradigm holds that the media have a crucial role to play in the process of diffusion of innovation because they create awareness among a large number of people at the same time. Katz, et al (1966) in Anaeto et al (2008) state that, for a new idea or innovation to diffuse, there must be awareness stage, interest stage, evaluation stage, trial and adoption stage. The theory of innovation diffusion holds that there will be increased rate diffusion if potential adopters perceive the innovation. (a) To have a relative advantage: the relative degree to which it is perceived to be better than what it supersedes. (b) To be compatible with existing values, past experiences and needs. (c) As not overly complex, difficult to understand and use. (d) As trial-able: the degree to which it can be experimented with on a limited basis. (e) As offering observability: visible results. (Rogers, 1995:15-16;212-244).

Innovation diffusion is characterized by passage of individuals and institutions through three stages. First, people 'play' with it, to find out its capabilities and limitations. In the second stage, they use the technology to assist them in their daily chores and responsibilities. In the third stage, they begin to use the innovation to help address new opportunities or problems which have not been addressed before the innovation Szabo, undated, in Anaeto et' al (2008). Many innovations undergo radical changes from their original intentions, under local control. At the local level, individuals need to have the power to influence how the innovation is used in the people and institutions change this response. Daramola (2003) wraps it up, perhaps, by saying that "diffusion of innovation theory is a theory that seeks to disseminate information about new discoveries to the masses of a social set-up." According to him, certain factors such as: lack of mass media, lack of access to the media systems, the language of mass media in the diffusion of innovation process.

The Researchers conducted a survey of publishers in South East Nigeria, as well as students of public universities in the region under study. Based on this, the study had three

sets of population. The first population was **7**, been registered publishing companies in South East. The second population was **179,** being the population of all the staff in the publishing companies; while the third population was **227,379** being the student population of public universities in South East.

Further, a sample of **5** publishing houses was purposively drawn from the first population. Thus, at least one publishing house was selected from each State of the zone. Therefore, the second population, a census was conducted. A sample of **400** was proportionately drawn from the third population. However, this sample was determined, using Isreal's (2013) Formula for determining sample size level(s) where confidence level is 95% and p_r=.5. Size of population sample size (n) for precision (e) calculation.

TABLE 1: POPULATION OF SOUTH-EAST STUDENTS

Names of Institutions in the South-East`	Population	Sample Population
Abia State University, Uturu	20,389	36
Michael Okpara University of Agriculture, Umudike	14,520	25
Imo State University, Owerri	16,251	29
Federal University of Technology, Owerri	21,000	37
Nnamdi Azikiwe University, Awka	37,182	65
Chukwuemeka Odumegwu Ojukwu University	24,706	43
Enugu State University of Science and Technology	28,760	51
University of Nigeria, Nsukka	39,571	70
Ebonyi state university, Abakaliki	22,000	39
Federal University Ndufu-Alike Ikwo	3,000	5
Total	227,379	400

Sources: Various school websites

Finally, data were generated through questionnaire administration; while the data gathered were descriptively analyzed through mean score determination.

Data Analysis

TABLE 2: POPULATION OF SELECTED PUBLISHERS

Publisher Tag	Population	Sample Population
Publisher 1	38	25
Publisher 2	56	37
Publisher 3	24	20
Publisher 4	75	39
Publisher 5	26	19
Total	**219**	**140**

TABLE 3: RESPONDENTS OF PUBLISHERS

Publisher Tag	Frequency	Percentage	Cumulative percentage
Publisher 1	31	17.3	17.3
Publisher 2	49	27.3	44.6
Publisher 3	18	10.0	54.6
Publisher 4	66	37.0	91.6
Publisher 5	15	8.4	100.0
Total	**179**	**100.0**	

TABLE 4: HOW OFTEN DO PUBLISHERS USE ICT'S FOR PUBLISHING?

S/N	Questionnaire Items	A	O	R	Ne	N	X
1.	Collation	54	39	21	26	140	2.12
2.	Pagination and graphics	61	24	32	23	140	2.67
3.	Wi-Fi publishing	25	14	45	56	140	1.57

Keys: (Always- A, Often- O, Rarely- R, Never-Ne)

The study revealed that publishers always use ICT for pagination and graphics with a mean score of 2.67 which a high rate in the mean score, which therefore signifies positivity, item 1 revealed that with a mean score of 2.12 that collation is being done with the use of ICT by a high number of publishers, while there is a low or poor attitude as it relates to wi-fi publishing, as it returned a mean score of 1.57 which is well below the grand mean score of 2.5.

TABLE 5: EXTENT TO WHICH INFORMATION AND COMMUNICATION TECHNOLOGY INFLUENCE THE 21ST CENTURY PUBLISHING?

S/N	Questionnaire Items	HE	E	IE	HI	N	X
1.	Easy publishing	94	57	19	9	179	2.3
2.	Ease of Stress	57	82	17	23	179	2.0
3.	Efficiency in Publishing	91	53	19	16	179	2.1
4.	Minimal error in publishing	76	30	28	45	179	1.8
5.	Fast Publishing	121	42	13	3	179	2.4

Keys: (Highly Effective- HE, Effective- E, Ineffective- IE, Highly Ineffective-HI)

The findings from the study revealed that publishers are influenced by Information and Communication Technology, as the findings pointed to the fact that publishers believe that it enables fast publishing with a mean score of 2.4, followed by easy publishing with a mean score of 2.3, while item 2,3, and 4 had mean scores of 2.0, 2.1 and 1.8 respectively.

TABLE 6: DO STUDENTS HAVE ACCESS TO INFORMATION AND COMMUNICATION TECHNOLOGY FOR LEARNING?

S/N	Questionnaire Items **Do you have access to the following?**	A	NA	N	X
1.	Internet Connected Computers	59	278	337	1.26
2.	Multimedia Projectors	25	312	337	1.38
3.	Internet Modems	89	248	337	1.61
4.	Interactive White Board	12	325	337	1.26
5.	Satellite Connection	15	322	337	1.24

Keys: (Access- A, No Access- NA)

The findings of this study revealed that students had no access to the information and communication technologies examined that could aid learning. Items 1 and 2 had a mean score of 1.26 and 1.38 which is well below the bench mark, while item 3, 4, and 5 showed 1.61, 1.26 and 1.24 mean scores.

TABLE 7: FREQUENCY OF STUDENTS' UTILIZATION ICT FOR ACADEMIC ACTIVITIES

S/N	Questionnaire Items	VF	F	IF	N	N	X
1.	Frequency of ICT utilization	105	58	74	12	337	2.38

Keys: (Very Frequently- VF, Frequently- F, Infrequently- IF, Never- N)

The findings on the frequency of utilization revealed that a great number of the students attested to very frequent utilization, with a number of 105, while frequently had 58, infrequently 74 and never 12. This therefore entails that, students were frequently utilizing information and communication for academic purposes.

Table 8: EFFECTS OF THE INFLUENCE OF INFORMATION AND COMMUNICATION TECHNOLOGY ON 21ST CENTURY PUBLISHING

S/N	Questionnaire Items	SA	A	SD	D	N	X
1.	Using ICT enhances my productivity	97	51	14	17	179	2.21
2.	Using ICT enhances my knowledge of new procedures in publishing	85	53	30	11	179	2.15
3.	Publishing manually gives better result than ICT assisted publishing	12	32	58	89	179	1.53
4.	I feel ICT assisted publishing makes no difference	20	42	82	35	179	1.55
5.	I feel the use of ICT is a waste of resources	23	20	52	84	179	1.20

Keys: (Strongly Agree- SA, Agree- A, Strongly Disagree- SD, Disagree- D)

The study revealed the effect of ICT on 21st century publishing, as item 1, which is productivity enhancement with mean score of 2.21, while item 2 returned a mean score of 2.15, item 3, 4, and 5 revealed mean score of 1.53, 1.55 and 1.20 respectively. These responses therefore showed positive effects.

TABLE 9: EXTENT TO WHICH STUDENTS USE ICT FOR LEARNING PURPOSES

S/N	Questionnaire Items	A	O	R	N	N	X
1.	I always use ICT to do assignments	141	121	54	21	337	2.3
2.	Using ICT to communicate with my colleagues	211	87	39	0	337	2.4
3.	Communicating with my lecturers	76	79	89	83	337	1.9
4.	Watching educational materials with ICT	119	152	34	32	337	2.3
5.	Using e-book for personal reading	125	75	69	68	337	2.2

Keys: (Always- A, Often- O, Rarely- R, Never- N)

The study revealed that the extent to which students use ICT for learning purpose, item 1 revealed a mean score of 2.3, item 2 had 2.4, item 3 had 1.9, item 4 had 2.3 and item 5 revealed 2.2 mean scores. This implied that a great number of the student respondents were always using ICT as a means of communication

TABLE 10: FACTORS THAT AFFECT OR IMPINGE ON THE 21ST CENTURY PUBLISHING AND PRODUCTION PROCESS BY THE USE OF ICTS

S/N	Questionnaire Items	A	NA	Total
1.	Broadband data	84	95	179
2.	Constant Power Supply	25	154	179
3.	Training Facilities	58	121	179
4.	Manpower	45	134	179
5.	Trained personnel	78	101	179

Keys: (Available- A, Not Available- NA)

The study revealed that publishers noted challenges that affect them in the use of ICT for publishing as lack of power supply, manpower, training facilities, trained personnel, and broadband data. The respondents attested to the no access much more than the access.

Discussions and Results
RQ1: How often do publishers use ICT for publishing?
Analysis of data in table 4 above reveal the frequency level to the use of ICTs in the 21st century publishing by the publishers who employed ICT assisted facilities as pointed in table 8 of data analysis. This which also implies that with the advent of digital information systems and international network, the scope of publishing has expanded from traditional

publishing to digital publishing which include electronic resources, such as e-book and periodicals, micropublishing, etc.

RQ2: To what extent do Information and Communication influence the 21st century publishing?
Analysis of data in table 4 above reveal the influence of ICT on 21st century publishing, within the study population in South-East, Nigeria. This influence was stimulated and encouraged as the publishers enjoyed tasted and easier means of publishing without much stress as experienced in traditional manual process of publishing. Supporting what Hassan (2013) opined that ICT is a labor-saving innovation, with speed and efficiency.

RQ3: what are the types of the influence of Information and Communication Technology on the 21st century publishing?
Analysis of data in table 5, students learn to use ICT multimedia facilities. Therefore, the students are influenced thereafter as they make use of ICT for assignments, communication with colleagues, lecturers and the use of e-books for reading as revealed in table 8. Thus, this supports what Ryan and Gross 1943 and Rogers 1960 cited in Anaeto et'al (2008) assertions; that diffusion of innovations and exposure will bring about knowledge, then formation of an attitude toward the innovations, implementation, which is putting innovations to use and confirmation. Similarly, Unagha, (2011) also indicated that most publishers and her workers having enjoyed a stress-free operation of ICT facilities in publishing business, prefer to an ICT driven and determined publishing to the old or traditional way of publishing process. This is because it is quick and easy.

RQ4: What factors impinges on 21st century publishing process and production by the used ICTs?
Analysis of data in table 9 reveals that some factors actually impinge on the 21st century publishing, production using Information and Communication Technologies. Ranging from little and non-availability of broadband data and networks power supply, manpower, limited training facilities and training personnel.
These explains the view of Ugocha (2014) which opines that the business of modern publishing in developing nations like Nigeria suffers or are impinge because of poor power supply, manpower further operation of communication technologies, poor facilities and training etc.

Summary and conclusions
Based on the data analyzed and findings made in this study, we conclude that currently ICT is influencing the business of 21st century publishing as a large part of international industry which is contributing to the world's technological capacity to compute, store, retrieve or transmit information. Therefore, it also behooves on publishers, information centers and the operators to tap into these technologies, its communications channels and

incorporate them into their services so as to effectively cater for the information needs of their patrons in this information age.

Recommendations

From the findings and conclusion of this study, the following recommendations are made. (a) The need for the adoption of ICT in every aspect publishing business should be welcome and implemented. (b) Developing strategies for ICT Integration in all the Nigerian public universities programs should be encouraged. (c) New research interest needs to be focused on how to cut the excesses and misappropriation in the student use of ICTs for academic and learning. (d) There is need for regular power supply. Thus, this will encourage establishment of more publishing industries. (e) The publishing companies should as well train and retrain their personnel on regular basis to meet and fit into ICTs new innovations, developments and improved challenges. (f) Service providers should provide or make available cheaper broad band data with stronger and reliable network to encourage efficient and better ICT driven publishing.

References

Adomi, E. E. (2006) Mobile phone usage patterns Amongst Students. A *Library and Information Science Journal of Academic and Special Librarianship*. Vol 7, No 1

Ahmedani, B. K. (2009) The Impact of International Technology (IT) on Psychosocial development among youth. New Orleans, LA; Spring World.

Anaeto, S.G.;Onabanjo,O.S. and Osifeso, J.B. (2008) Models and Theories of communication. Lagos; African Renaissance Books

Awoleye, M.; Siyanbola, O. and Oladipo, F. (2008) Adoption assessment of Internet usage amongst undergraduates in Nigerian universities: A *Journal of Technology Management and Innovation,* 3(1): 84-89.

Bennett, F. (2005). *ICT and Electronic Business in the Publishing and Printing Industry.* Bonn/Brussels: European Commission Directorate.

Charney, T. and Bradley, G. (2001) Uses and gratifications of the Internet Communication and audience adoption. New Jersey: Hampton Press, Inc.

Chiluwa, I. (2009) SMS Text-messaging and the Nigerian Christian Context: Constructing values and sentiments. *The International Journal of Language society and culture* www.edu.utas.ed.au/users/tle/PURNAL/ISSN 132-77x (accessed 10th August 2017).

Clarke, J. (2009) Digital media and development in Southeast Asia. Media Development Vol LIII 3/2006 PP 43-46.

Davies, J. P. (2003) Education in the electronic culture. New Jesey: Scarecrow Press Inc.

Hasan, S. (2010) *Mass Communication Principles and Practice*. New Delhi; CBS Publishers

Ihejirika, W.C. (2007) New Information and Communication Technologies and the Emerging 'Identities' of Nigeria University Students: a paper presented at LAMCR, UNESCO, Paris 23-25 July 2007.

Iyamu, O.S. and Ogiegbane, A. (2005) Assessment of the use of educational technology by teacher in Nigeria. www.Ueq.edu.au/electpub/e-jist/doc/vol8no/comments/ assessedtec.htm. (accessed 12 July 2017).

Jagboro, K.O. (2003) Internet usage in Nigerian universities: http://131.193.153.231 /www/issues_8 2/jagboro/index.html. Retreaved 2nd September 2017

Jensen, K. B. (2009) The qualitative research process in Jensen, Klaus . B (ed) A *Handbook of Media and Communication Research.*London: Routledge Press.

Katz, E., Blumler, J. and Michael, G. (1974) Uses of mass communication by the individual. California: Wadsworth Publishing company

Kaye, B. K. (2007) Blog use motivations:*Blogging, citizenship and the future of media.* New York: Routledge Press.

McQuail, Denis (2010) *McQuail's Mass Communication Theory (6th edition).* London: Sage Publications.

Omenugha, K. (2010) Internet uses and media coverage. *Journal of communication and media Research 2:4*

Omotayo, B. O. (2006) Survey of internet access and usage among undergraduates in an African university,: *The International Information & Library Review. Ibadan*: Light House.

Papacharissi, Z and Alan, M. R. (2000) Predictors of Internet usage. *Journal of Broadcasting & Electronic media 44: 175-196)*

Sefton-Greene,G. J. and Buckingham, D. (2008) Digital Vision: children's creative uses of multi-media technologies*. London. Routledge Press.

Silverman, D. (2000) *Doing qualitative research – a practical handbook.* London. Sage Pub.

Tompkins, P. (2003) Truth and trust in cyberspace and Media Development. Newjesey. Dovers Press.

Tracey, I. (2004) Youth culture and new technologies- English Languagehttp://wiki.media-culture.org.au./index.php/yoith_cukture_and_New_Technologies_-English_Language (accessed 15 August 2017)

Ugocha, O.(2014) *Introduction to Book Publishing and Printing*. Okigwe: Macro Press.

Unagha, A. O. (2011). Concept of Networks in*Information and Communication Technologies: An Introductory Text*. Owerri: ODDESA Educational Publishers.

Vittin, T. (2002) Opportunities and challenges of the internet in Africa. http://www.unsystem.org/ngls/documents/publications.en/voices.africa/number 9/3overview.html (accessed 8 July 2009).

Watson, M.D, (2005) *Pedogogy Before Teaching; The Relationship Between ICT and Teaching.* Carlifonia; Atlantic Press.

Yusuf, M. O. (2009) Trends and Barriers on the integration of information and communicating technology in the Nigerian school system http://www.unilorin.edu.ng/unilorin/publications/moyusuf/Trend%20and20Barriers.doc (accessed 5th August 2010)

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