Impact of ICT in Journalism in 21st Century

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Abstract: *Journalism in the 21st century is an amalgam of training competence and expertise. It requires the sagacity of appreciating audience new and the ability to meet customers' aspiration for prosperity. It is only when journalist is abreast with technologies of the 21st century that journalism will be hailed as relevance to the need and service of the society. This study examined the impact of ICT in journalism in 21st century in Nigeria. The migration of readers, viewers and advertisers from newspaper and broadcast television to the web is not limited to the developed world but has also become a visible trend in developing countries such as Nigeria. The population of the study comprised journalists across all the platforms in Oyo State. According to NUJ administrative, the total number of registered journalists is 500, of which 200 respondents were randomly selected across the media platforms of Oyo State chapter of Nigerian Union of Journalists (NUJ). The result of the study showed that the respondents claimed that smart phone, social media, Podcast, audio recorder and photo/video editing software are some of the most frequently used ICT tools by journalists in the 21st century with majority claiming that smart phone is one of the most widely used ICT tools. The result of the hypothesis showed that ICT tools (audio recorder, social media, Photo editing software, Podcast and smartphone) significantly impact journalism $R^2 = .725; F (5, 199) = 75.903; p < .05)]$ accounting for about 72.5% of the variance observable in journalism. The study recommends that media houses should expend resources in ICT gadgets, in order to enhance journalism profession.*

Keywords: Technology, Journalism,21st Century, Media and Information Communication Technology (ICT)

Introduction

The emergence of Information and Communication Technology (ICT) has transformed all aspects of society, along with the mechanism of collecting and disseminating information. ICT has had a substantial influence on numerous industries, including journalism. The computer and modem, as well as several other ICT hardware and software inventions and services, have propelled communication to new heights and changed the way many men and women operate in the media industry (Magira, 2019). Journalism is the creation and dissemination of reports on the day's interactions, happenings, factual information, ideas, and people. The term refers to the techniques of collecting data and organizing literary styles, whether professional or not. Journalism plays a similar watchdog role in the economic system as it does in the political system. Numerous news organizations, both print and broadcast, have human rights advocates on staff (Strovall, 2005).

The computer is at the heart of the convergence, and its entry into the media industry has resulted in a significant increase in speed, innovative thinking, and accurateness. They presumed that the computer obtained this advantageous position in digital convergence due to its ability to digitally convert text, numbers, sound, and graphics. The application of ICTs to the media industry has altered the way the industry operates, influencing broadcast product content, circulation aesthetics, and the quality of staff in each ICT-driven establishment, as well as creating a new set of carriers. The information superhighway known as the internet demonstrates how maturity in the twenty-first century has transformed journalism into a state-of-the-art profession, where novices in new technology appear to be relegated to the dungeon of intellectual abyss through either ignorance or inefficient compliance to the century's technological capabilities. Nwabueze (2005) defines the internet as the interconnection of computers and other devices such as mobile phones that exchange information via telephone lines.

Journalism in the 21st century is an amalgam of training competence and expertise. It requires the sagacity of appreciating audience new and the ability to meet customers' aspiration for prosperity. It is only when journalist is abreast with technologies of the 21st century that journalism will be hailed as relevance to the need and service of the society. Journalist must note that at the punch of technology driver's communication button, one is ushered into the information super highway where the desired information about the world is at one's palm.

Journalism was once largely print based when the majority of people wanted to take time to read newspapers. Now as people are turning to the internet for their information needs, print journalism is slowly being cast aside and some even consider print journalism a dying art, as shown by the steady decline of print newspaper sales. Journalism departments all over the world have to rethink the way journalism is being taught, as techniques of fifteen years ago are not applicable today. The journalism landscape is constantly changing, with new technologies and mediums re-defining the relationship between the news media and the public. Newspapers have been the major media of

journalistic materials from the era of pigeons to Wi-Fi internet. Unlike the incremental developments of the past, today's telecommunications revolution marks a fundamental change of direction.

The arrival of the digital revolution—the evolution of the Internet, the emergence of new forms of media, and the rise of online social networks—has reshaped the media landscape and made "the press" of 21st century something that many could not have imagined. From digital retouching to wholesale deception, the media world is now beset by an unprecedented range of professional challenges. Not only because of the different media that arise, but the new dynamics of work. Every day the new devices and tools are added in exponential growth that sometimes appears to cause an excess of choices and opportunities that journalists and audience don't know yet.

Digital technologies have charted revolutionary changes in journalism and fundamentally altered the nature and function of media in our society, reinventing age-old practices of public communication and at times circumventing traditional media and challenging its privileged role as gatekeepers of news and entertainment. There are myriad ways in which digital technologies have impacted on the practice of journalism, from the way reporters gather information and present news stories to how news organizations structure themselves and do business. Digital technologies have expanded quickly, permeating society with new formats and possibilities of communication. Hypertext, multimedia, hypermedia has become part of the routine of the vast majority of professionals and require schools to change their ways of teaching and learning. If we peer into the future, we can foresee a media landscape dominated by a highly fragmented, though active audience, intense media competition, and scarce advertising dollars. By embracing new technologies, professional journalism and media can hold on to their role as a vital information lifeline and continue to operate as the tool of a successful democracy.

The internet has made the world smaller for journalists to explore. This wonderful technology has also made research on various subject matters available via chatting and exchange of messages. This has created new markets and form of journalism where journalists specialize and work as online journalists, content managers or editors for particular websites. The internet is pushing journalists to learn new skills on how to add content to a web site, blog and create hypertext links the coming of the internet is also leading journalists to basically know photographic skills such as how to take digital pictures and upload them to a computer or add them to a blog and website. Internet has made it easy for journalists to research on any subject as it is one of the biggest resources – it makes it easy to find out what acronyms stand and also research a certain subject matter.The migration of readers, viewers and advertisers from newspaper and broadcast television to the web is not limited to the developed world but has also become a visible trend in developing countries such as Nigeria. Newspapers have for the past decade decried the decline in circulation as web visits continue to increase, making the future of newspaper journalism an uncertainty. This study examines the impact of ICT on journalism in the 21st century.

Aim and Objectives of the Study

The primary aim of this study is to examinethe impact of ICT on journalism in the 21st centuryin Nigeria. The specific objectives are as follows:

    i.   To examine how often journalist make use of internet
    ii.   To determine the various ways in which ICT had been helpful to journalism in Nigeria
    iii.   To examine the various ICT tools frequently used by Journalists in the 21st century

Research Questions

    i.   How often does journalist make use of internet?
    ii.   In what ways has ICT been helpful to journalism in Nigeria?
    iii.   What are the various ICT tools frequently used by Journalists in the 21st century?

Hypothesis

H_{01}**:** There is no significant impact of ICT tools on journalism in the 21st century in Nigeria

Theoretical Review
Journalism has a distinct culture with norms, conventions and expectations of behavior of those who are part of the culture. Many of those expectations are dueled by the public services aspects of the profession. The feeling among journalists that they are working for public good, not just for their private benefit. The process of journalism are

ideally governed by journalists themselves, few rules or restraints are imposed on them from outside the profession. Journalism practices' ambitious scope includes the history of journalism practice; the professional practice of journalism; journalism training and education; journalism practice and new technology, journalism practice and ethics, and journalism practice and policy. It is hoped that journalism practice will complement current trends to expansion in the teaching and analysis of journalism practice within the academy, reflection on thereby help to consolidate journalism as an intellectual discipline within the landscape of higher education (Harcup, 2009).

The emergence of new communication technologies has changed the structure of newspapers. The quality of multimedia for online version is the main feature in online newspaper structure that increases the distance between print journalism and new generation because the design of newspapers has changed to multimedia contents, i.e. online newspaper design is fundamentally different from print version since the design in online newspaper covers the dissemination of messages (Ibekwe, 2010). Web design applications and techniques of the newspapers on the Internet demonstrate information reflected via the way the publishers structure the news contents. Internet newspapers with different designs can produce different levels of gratification because web design is an important approach which can affect news retrieval efficiency.

One of the thinkers in the field of journalism uses two ways to define multimedia in journalism, which are both "ideal typical". The first one is given a new story package by many media formats, like image, graphic animation and moving music that include hyper textual elements and interactivity, whereas the second one is using several media, such as SMS, MMS, e-mail, radio, television, print newspapers and magazines in order to give news story package on the website (Deuze, 2004). Generally, online journalism allows users to obtain additional information from the separate pages that they want to know.

The term Information and Communication Technology (ICT) refers to forms of technology that are used to transmit, store, create, share or exchange information. This broad definition of ICT includes such technologies as: radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, computer and network hardware and software; as well as the equipment and services associated with these technologies, such as videoconferencing and electronic mail.(Wikepedia,2009). ICT known as Information and Communication Technologies are communication gadgets, hardwires, equipment or facilities that have modernized, improve and ease exchange of ideas and information of various kinds between people within or across distant boundaries or frontiers. According to Nwabueze (2005, p.5) they are also called New Communication 'Technologies (NCTs). According to Liverpool (2002); ICT is a generic term referring to technologies that are used for collecting, storing, editing and passing on information in various forms. Butcher (2003:10) defines ICT as electronic technologies for collecting, storing, processing and communicating information. They can be separated into two categories: (1) those which process information, such as computer systems, and (2) those which disseminate information such as telecommunication system.
Computer technologies include all removable media such as optical discs, flash memories, video books, multimedia projectors, interactive mobile phones, PDAs, palmtops, etc, these technologies have information as their material object (Ogechukwu and Osuagwu, 2009).

Recent studies have shown that we now 'experience journalism through the eyes of technology' (Bonin, 2013:1),notes that new media and of recent social media in the likes of Twitter and Facebook are the new ways through which products of journalism are being felt. According to Bonin, 'Unlike previous technology, these allow online communities created by readers, listeners, and viewers to discuss issues, have their voices heard, and get feedback in record time' (Bonin, 2013:1). New media has accelerated the news gathering process due to its digital nature and offers flexibility to journalists by way of allowing them to spend more time in the office. This contrasts with traditional journalism routines, which induce reporters to roam the streets in search of news without adequate communication devices for networking and direction (Deuze, 2003). Yet, the African continent is still coming to terms with the implications of new media more than two decades into the adoption of such technology (Atton and Mabweazara, 2011). Many studies have shown that new media and journalism practice are largely grounded on technological determinism theory. In this theoretical approach, technology is seen as the main driver of social change. That said, technology has always been part of human existence and the ability of man to invent and drive technological changes is seen as what distinguishes humans from other animal species.

Theoretical Review

Uses and gratification theory (UGT) is an approach to understanding why and how people actively seek out specific media to satisfy specific needs. This theory is an audience centered approach to understanding mass communication

diverging from other media effect theories that question "what does media do to people?" uses and gratification theory focuses on "what do people do with media?"

The communication theory is positivist in its approach based in the socio-psychological communication tradition, and focuses on communication at the mass media scale. The driving question of this theory is; why do people use media and what do they use them for? Uses and gratification theory discusses how users deliberately choose media that will satisfy given needs and allow one to enhance knowledge relaxation, social interactions/ companion, diversion or escape.It assumes that audience members are not passive consumers of media. Rather, the audience has power over the media consumption and assumes an active role in interpreting media into their own lives. Unlike other theoretical perspective, uses and gratification theory holds that audience are responsible for choosing media to meet their desires and needs to achieve gratification. This theory would then imply that the media complete against other information sources for viewers gratification. The theory was put forward by Jay Blumler and Elihu Katz.

Empirical Reviews

Obayi, Onyebuchi and Uwanuakwa (2018) examined journalists' perception of the influence of ICT in enhancing journalism practice in Nigeria, with special focus on journalists in Owerri, Imo State. The study asked among other questions: How has ICT influenced journalism practice in Owerri? The Technological Acceptance model and Technological Determinism theory were used as theoretical framework of the study. The study adopted survey research method. Using census principle for sample size determination, the total of 220 respondents which served as the population of the study (the total number of registered journalists in Imo State as contained in the register of The Nigeria Union of journalists Imo State chapter) were studied. Questionnaire served as instrument of the study. Findings showed that 90% of journalists in Owerri had access to ICTs and that 82% of journalists had been aided by ICT in news gathering and reportage to a large extent. It also revealed that 58% of journalists in Owerri are facing challenges of high cost of installing new technologies in media houses while 90% of journalists in Owerri strongly agreed that ICT has influenced the way they carry out their duties. The study concluded that ICT has improved journalism practice in Imo State. It also recommended that media houses should expend resources in ICT gadgets, in order to enhance and sustain ICT complaint journalism profession.

Nwanne (2016) carried out a study on journalism and new media in Nigeria: Issues, Challenges and Prospects. It builds its postulations on the technological determinism theory which argues robustly that the communication technology prevalent in any age has a profound effect on the way the people think and believe. The paper highlights some challenges of Nigerian journalists in using the new media to include poor finances, inadequate power supply among others. Despite the challenges, the media people have coped well, leading to what has been described as media convergence. The paper recommends among others that government should urgently and effectively address the power situation in the country, provide a knowledge economy while employers and employees of the media industry should engage in constant training and retraining.

Methodology

This study adopted a survey research design to examine the topic under investigation. A survey is a research method that the researcher uses to gather information about a specific group of people who are representative of a larger group of people who are of interest to them (Onwubere, Wilson, Esiri, &Ajibade, 2015). In other words, the survey is a method of collecting data from a specific population using a questionnaire or an interview instrument and then analysing that data to draw conclusions (Morah & Omojola, 2018).
The population of the study comprised journalists across all the platforms in Oyo State. According to NUJ administrative, the total number of registered journalists is 500, of which 200 respondents were randomly selected across the platforms (online news, radio and television stations, National Newspapers correspondents, and Oyo State Ministry of Information and strategies) as the sample size. Data was collected using a research questionnaire as data collection instrument. Data analysis was done after the data gathered were coded and managed using the Statistical Package for Social Sciences (SPSS). Data analysis was done using Inferential and Descriptive statistics. The descriptive statistics was used such as simple percentages, frequencies, bars for analyzing demographic variables of the respondents Also, hypotheses were tested using Multiple Regression Analysis.

Results and Discussion of Findings
Table 1: Distribution of Demographic Characteristics of the Respondents

Variable(N=200)		Frequency	Percentage

Gender	Male	111	55.5
	Female	89	44.5
Age	25-30 yrs	13	6.5
	31–35yrs	130	65.0
	36-40yrs	46	23.0
	41-45yrs	11	5.5
Highest Educational Qualification	Tertiary	121	60.5
	Postgraduate	79	39.5
Media Organisation	Online newspapers	73	36.5
	Correspondents	4	2.0
	Radio Station	62	31.0
	Television Station	52	26.0
	Ministry Information	9	4.5
Work Experience	3-7 yrs	60	30.0
	8-12 yrs	61	30.5
	13-17 yrs	73	36.5
	18–22yrs	6	3.0

Researchers' Field Survey, 2022

From the table above, majority of the respondents were male (55.5%) while their highest age was between 31-35 years (65.0%). Majority of them (60.5%) were graduates and significant number (36.5%) of them worked with online media. Likewise, larger percentage of them (36.5%) had been in the profession between 13-17years.

Table 2: Frequent Use of Internet by Journalists

How often do you use internet?	Frequency	Percent
Less than 5 hours a day	8	4.0
6-10 hours/day	89	44.5
11-15 hours/day	96	48.0
16-20 hours/day	7	3.5
Total	**200**	**100.0**

Table 2 shows that 96 (48.0%) of the respondents claimed that they use internet for 11-15 hours daily, 89 (44.5%) of the respondents claimed that they make use of internet for 6-10 hours daily, 8 (4.0%) claimed that they use internet for less than 5 hours daily while 7 (3.5%) claimed that they use internet for 16-20 hours daily.

Table 3: How ICT has helped journalism in Nigeria

Statement	SA	A	D	SD
ICT has made it possible for media houses to disseminate information with ease	87 (43.5%)	83 (41.5%)	29 (14.5%)	1(0.5%)
The cost of installing new technologies in media houses affects the adoption of ICT	76 (38.0%)	68 (34.0%)	33 (16.5%)	23(11.5%)
ICT has made broadcasting and journalism easy, clear and standardized	57 (28.5%)	108(54.0%)	18(9.0%)	17(8.5%)
The move from analogue to digital equipment in journalism practice has improve the quality and standard of journalism profession	53(26.5%)	126(63.0%)	19(9.5%)	2(1.0%)
The advent and adoption of ICT gadgets has brought about the need to train journalists in ICT literacy	38(19.0%)	158(79.0%)	4(2.0%)	-

Researchers' Field Survey, 2022

Table 3 shows that 33 (66.0%) and 17 (34.0%) of the respondents agree and strongly agree respectively that ICT has made it possible for media houses to disseminate information with ease, 21 (42.0%) and 29 (58.0%) of the respondents agree and strongly agree respectively that the cost of installing new technologies in media houses affects the adoption of ICT, 20 (40.05) and 24 (48.0%) of the respondents agree and strongly agree that ICT has made broadcasting and journalism easy, clear and standardized, 27 (54.0%) and 20 (40.0%) of the respondents agree and strongly agree respectively that the move from analogue to digital equipment in journalism practice has improve the quality and standard of journalism profession while 24 (48.0%) and 22 (44.0%) of the respondents agree and strongly agree respectively that the advent and adoption of ICT gadgets has brought about the need to train journalists in ICT literacy.

Table 4: ICT tools frequently used by Journalists in the 21st century

ICT tools	Frequency	Percent
Smart phone	93	46.5
Audio recorder	61	30.5
Podcast	11	5.5
Photo/Video editing software	20	10.0
Social Media	15	7.5
Total	200	100.0

Table 4 shows that 93 (54.0%) of the respondents claimed that smart phone is one of the most frequently used ICT tools by journalists in the 21st century, 61 (22.0%) of the respondents claimed that audio recorder is one of the frequently ICT tools used, 20 (12.0%) claimed that photo/video editing software is one of the frequently used ICT tools, 15 (10.0%) claimed that Social media is one of the frequently used ICT tools while 11 (2.0%) claimed that one of the frequently used ICT tool is Podcast.

Hypothesis Testing

H_0: There is no significant impact of ICT tools on journalism in the 21st century in Nigeria

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.851a	.725	.694	.86171

a. Predictors: (Constant), audio recorder, Photoediting, social media, smartphone, Podcast

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	86.148	5	17.230	75.903	.000b
	Residual	32.672	144	.227		
	Total	118.820	199			

a. Dependent Variable: Journalism
b. Predictors: (Constant), audio recorder, Photo editing, social media, smartphone, Podcast

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.859	.739		5.223	.000
	Audio recorder	.529	.273	.169	1.937	.039
	Social Media	.199	.078	.209	2.546	.014
	Photo editing	-.274	.156	-.166	-1.755	.086
	Smart phone	.853	.152	.531	5.602	.000

| Social Media | 1.267 | .197 | .514 | 6.424 | .000 |

a. Dependent Variable: Journalism

The impact of ICT tools on journalism was tested using Multiple Regression Analysis. The result showed that ICT tools (audio recorder, social media, Photo editing software, Podcast and smartphone) significantly impact journalism [(R^2 = .725; F (5, 199) = 75.903; p < .05)]. This infers that ICT tools (audio recorder, social media, Photo editing software, Podcast and smartphone) jointly accounted for about 72.5% of the variance observable in journalism.

In addition, the result of the coefficients of multiple determination for the model shows that the independent contribution of ICT tools (audio recorder, Social Media, Podcast and smartphone) were significant ((β = .169; t = 1.937; p< .000), (β = .209; t = 2.546; p< .000), (β= .531; t = 5.602; p< .000) and (β = .514; t = 6.424; p< .000) while that of photo editing software was not significant. In terms of magnitude, smart phone has the highest magnitude of (β= . 531), followed by Podcast with (β= . 514) and blog with (β= . 209).

Conclusion and Recommendation

This study examined the impact of ICT in journalism in 21st century in Nigeria. The study made use of a survey research design in which 200 journalists were selected randomly from the Oyo State chapter of Nigerian Union of Journalists (NUJ) and administered questionnaire. The result of the study showed that the respondents claimed that smart phone, social media, Podcast, audio recorder and photo/video editing software are some of the most frequently used ICT tools by journalists in the 21st century with majority claiming that smart phone is one of the most widely used ICT tools. The result of the hypothesis showed that ICT tools (audio recorder, blog, Photo editing software, Podcast and smartphone) significantly impact journalism accounting for about 72.5% of the variance observable in journalism. The independent contribution of ICT tools (audio recorder, blog, Podcast and smartphone) was significant while that of photo/video editing software was not significant. The findings of this study are in line with the study of Obayi, Onyebuchi and Uwanuakwa (2018) and Nwanne (2016).

Recommendations
  i.   Media houses should expend resources in ICT gadgets, in order to enhance journalism profession
  ii. Employers and employees of the media industry should make it a point ofduty for continuous training and retraining.
  iii. Government should endeavour to put in place a financial scheme thataddresses financial needs of journalists in Nigeria.

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