Knowledge Level of New Media Application Tools and Operational Use Challenges (A Survey of Radio and TV Journalists in Government-owned Media Organizations)

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Authors’ contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

ABSTRACT

The study examined the knowledge of the use of new media tools and applications for the enhancement of information gathering and dissemination in the newsroom and the challenges faced in the integration of these tools in journalism practice, giving credence to peculiarities of the Nigerian situation. The study seeks to achieve the following objectives: to find out the challenges of news and information gathering in a digital age, to determine the knowledge level and operational skill of journalists use of the veritable tools such as apps and ICT facilities employed in the new media realm and also to enumerate ICTs challenges faced in order to engender support and vibrant journalism practice in Nigeria. The survey research method was adopted while the questionnaire was used as an instrument of data collection. Respondents showed a slightly above average knowledge level of podcasting and Google image uses (64%). However, there was little
knowledge demonstrated in the uses of the wiki, dejero/bambuser etc (38% and 29% respectively). Also, challenges plaguing journalism practice in Nigeria include inadequate staff training, epileptic telecommunication network and internet server problem as a major problem (among others). This study, therefore, among others; recommends that the government provides the needed social infrastructures, which the media need to operate. In this sense, the government should improve on the power supply situation so that ICT facilities can function under the right environment and adequate training for right knowledge and use of technological applications used for attaining the standards of international media best practices.

Keywords: Information and communication technology; challenges; blogging; wiki; podcasting.

1. INTRODUCTION

Today, we live in an information age characterized by the use of Information and Communications Technology (ICT) resources in nearly all aspects of human endeavours and ICT tools have taken centre stage in shaping the world economy and will continue to do so far into the foreseeable future. We, therefore, live in a global village where ICTs have a direct impact on a nation’s ability to improve the economic well being of her people and compete globally (Yin and Luan,2015) [1]. New technologies have shaped or are reshaping media practice all over the world today [2] as information and communication technologies are now generally perceived as strategic activities and the management of resources for stimulating personal, organizational and national productivity, growth and development. Towing the same line of thought, media experts like John [3] Croteau and Hoyness [4] reckoned that a revolution in the media industry in the world was triggered by new media technology or convergent media which changes the character of communication in society. The internet has made journalism practice easier for journalists via the exchange of messages with professionals and experts in various disciplines and the use of ICTs in the media has revolutionized and enhanced new processing [5,1]. In the past Information and Communication Technology has transformed the world in all spheres of life. It has helped in reducing manual operations and growth in the news gathering, packaging and dissemination. With designed media applications, journalists can now source for relevant information from the internet through various sites [6]. This has introduced new market and new form of journalism in which journalists specialize as online journalists, content managers and editors for some websites/media organizations and has also made it imperative for them to train to acquire blogging skills, creating hypertext, adding contents to web pages, taking and uploading digital pictures [7]. There is no doubt that journalists in Nigeria are enthusiastic about the advent of new media and the adoption of new media tools for performance and new timeliness. However, a major challenge encountered is how journalists could use them to enhance their work in the newsroom. This includes new media technological skills such as Blogging, wiki, podcasting, video blogging etc (Mawutodki, 2009).

1.1 Objectives of the Study

1) To ascertain journalists knowledge level of the uses and applications of vital broadcasting technological applications.
2) To investigate the major challenges of using Information and Communication Technology in news processing and reporting.

1.2 Research Questions

1. What are the operational importance and knowledge level of new media apps employed in the digital world of media by journalists in state-owned media houses?
2. What are the constraints of using Information and Communication Technology in news gathering and reporting?

This study is expected to provide insight to the knowledge level of practising media personals/journalists of important broadcasting apps and IT used for improving communication efficiency by their counterparts in the developed world; in overcoming prevailing challenges of news timeliness. Also, it will reveal the benefits and applicability in news reporting and the need for the procurement of the necessary skill or training.
2. LITERATURE REVIEW

Information and communication technologies are fast transforming journalism practice, just as they are transforming service delivery in other sectors (e.g., political, health, educational sectors etc). This poses major issues for policy-makers such as: To what extent can investment in ICT enhance the cost-effectiveness of services? What are the respective roles of government, of ICT technology professionals and of the private sector in promoting the application of ICT within the media field?

2.1 ICT Evolution

According to Watts [8] the OECD review of policies for information, guidance and counselling services commissioned jointly by the European Commission and the OECD, structured the evolution of the application of ICT into four phases. The first was the mainframe phase, from the mid-1960s to the late 1970s. A number of computer-aided guidance systems were developed which demonstrated the potential of ICT. But the costs of direct interaction with the computer meant that the only systems which proved widely practicable in cost terms were based on batch processing. The static nature of this process and the feedback delays limited the implementation of such systems [9]. The second was the microcomputer phase, from the early 1980s to the mid-1990s. The advent of the microcomputer made interactive usage much more economical, and also made it easier to develop and market limited software packages; its attractiveness grew as more powerful versions of the personal computer were developed. The result was substantial growth in the number of computer-aided guidance systems, and in the extent of their usage. By the 1990s it was difficult to find a guidance service in any developed country which did not make use of such systems. The third was the web phase, in the late 1990s. The advent of the Internet meant that instead of free-standing systems located in career guidance centres, websites could be developed which individuals could access instantly from a wide variety of sites, including their homes. The ease of developing such websites produced a massive increase in their number; the ease of interconnecting them meant that they no longer needed to be viewed as discrete entities. Rather than perceiving ICT solely as a service from external suppliers, guidance services began to develop their own websites. The fourth is the digital phase, which we are now in. It can now be separate “analogue streams” of the computer, the television and the telephone are merging into an integrated” Digital River” [10]. Individuals are now able to access the Internet not only through their personal computers but also through their televisions and mobile phones. Greatly enhanced bandwidth will shortly enhance its speed and its capacity for transmitting video and audio as well as text. Across these four phases, three key trends can be discerned. The first is increased accessibility via phones, home and office gadgets, community social platforms etc increased interactivity. In the early stages, resources were developed as separate systems, offering only limited interactivity with users [11,12]. Now, they are highly interactive not only with users but also with each other and across inter-media boundaries. The third is much more diffused origination with substantial resources at journalists disposal, so anyone can now develop their own website, news blogs etc.

2.2 ICT and the Future of Journalism Profession

The implication of new technology in the enhancement of journalism as a corporate body or an individual cannot be overemphasized. Hence, the surge of workshop training and information on ICT tools and applications such as Wiki, Podcasting, Video-blogging, URL, Web 2.0 etc (Mawutodki, 2009)

- **Wiki:** A kind or type of website that allows people to visit a site (news, entertainment etc) to modify, add, remove, rewrite, put or edit the content. This element of Wiki makes it a most effective ICT tool for collective and collaborative writing in the history of online-journalism or e-journalism or web-journalism in the 21st century. It is important to note that Wiki allows editing to take place in real-time.

- **Podcasting:** The podcast is a radio-style programme that can be downloaded from the internet and listened to on a computer or an mp3 or burned onto a CD. Hence, a podcast can be used as a radio broadcast, event information, and communication etc Other uses include storytelling, directions, commentaries, sportscasts, audio tours and virtual tours.

There are four stages of Podcasting process. These include **Recording, Editing, Hosting and Promotion.** The recording is the physical record of the content or the radio programme or event
for the podcast with a digital recorder. Editing involved the editing of the file on the PC or computer using a wave file format, which is used for storing digital audio data. Hosting involves using the internet to host the podcast. The final stage which is the Promotion involves the showcase of the podcast on specific radio programmes to the target audience via download links and URLs.

2.3 Constraints of Using Information and Communication Technology in Journalism Practice in Nigeria

Prevailing factors like the limited access to grossly inadequate ICT infrastructure, including fixed and mobile telephony services, radio, internet and broadband service penetration etc are few of the many factors that plague developing countries such as Nigeria [6,7,13]. It is worthy to note that there are commendable developments in the area of ICT, however, there are still some inadequacies [6]. Aside from limited access, mass illiteracy rate in ICT tools etc the high cost of accessing the computer and the internet as well as power outage poses a great threat to its sustainability and development. This is further buttressed by the digital divide as reported by the World Youth Report [14] where the concept of the digital divide was applied in three different ways.

- The notion of the global digital divide, which relates to the disparities in ICT use between people living in different parts of the world. One dividing line in this context can be drawn between the developed and developing countries. In terms of economic activity, ICT is expected to significantly increase access to potential customers in terms of both marketing and direct sales.
- The second interpretation relates to unequal opportunities for ICT use within countries. Important factors in this respect include an individual’s socio-economic position, level of education and place of residence.
- The third type of divide is one pertaining to participation in a democracy and the possibilities that may develop after the digital revolution.

3. THEORETICAL FRAMEWORK

This study investigates the challenges in the use of ICTs in achieving communication efficiency in journalism practice in the state-owned broadcasting agencies from the perspective of Structuration theory propounded by Anthony Giddens [15], in a state owned organization (both radio and TV). Information communication technology is considered as one of the major technological innovations of the 20th century because it affects political, cultural relationships and socio-economic development [1,16]. The major focus of this theory is the study of the complex interwoven relationships between information technology, people, organisational change and societal transformation. Considering the uses and consequences of technology that emerge from complex social dynamics between institutional structures and social agents, the study of the mutual influences of institutional structures and technological innovation patterns in relation to internet innovation in developing countries is without doubt crucial to its level of adaptability [17]. The structuration process involves reciprocal influences between social agents and institutional structures and implies the mutual dependence of institutional structures and social interactions. This two-way character of dependence between social agents and institutional structure is referred to as “the dialectic of control in social systems” [15]. In various studies on the development of the Internet and its infrastructures, three groups of players can be identified: regulators, providers, and users [18,19]. The first group (regulators) is composed of government organisations, which play political, regulatory or law enforcement roles constituting the institutional structures. For the second group of players, there are three types:

1) Internet commerce services and product providers
2) Telecom operators and IT hardware and
3) Software manufacturers.

In the dynamic and uncertain Internet innovation context, they compete aggressively by mobilizing specific rules (such as regulations, practice, or self-regulation principle) and resources (infrastructures, technologies or capital) that they have in their possession. Each provider tries to shape the technological development and the resulting outcomes according to their own market, socio-political positions as well as economic interests. These two groups of players from the internet regulators and services providers (IRSP). The last group (users) comprises heterogeneous Internet end-users (IEUS) such as businesses, individuals, or
households with a diversity of needs and usually divergent interests. In the context of Internet diffusion study, the process of structuration occurs as a result of the mutual interactions between the realm of social agents’ actions and the institutional structures via the three modalities; ideology, techno-economic resources and socio-legal norms. In structuration theory, these three modalities are: the meaning, resources and rules of the structured properties of social systems; as Giddens [15] reiterates that they can’t be conceptualized separately. In developing countries, institutional factors are ubiquitous and important to study in an effort to understand or explain IT diffusion crossing organizations’ boundaries [17] Governments play a major role in building the national information infrastructures because most of them would have been impossible without government support and financing. Also, technological innovation adoption is greatly influenced by government policies that range from perceived importance to mandating its use through rules and regulations [19].

4. MATERIALS AND METHODS

This study is based on a survey in a state-owned television and radio broadcasting station in the southwestern region of Nigeria. Purposive sampling technique was used to determine the sample size selected for the study which was the editors, reporters (thirty-four in number). A total of thirty-four (34) copies of the questionnaire were administered and analysis was done. The analysis was done using simple percentage and frequency tables of the SPSS 20 statistical analysis software package. Confidentiality was assured while informed consent of respondents was duly signed by respondents. The demographic profile of the respondents indicated as appropriate which includes age, sex, educational status, years of experience etc. Other sections of the questionnaire include: Their knowledge, types and apps used in journalism practice, staff training, challenges as regards availability and complexity of ICT tools etc.

5. RESULTS

5.1 Demographic Profile of Respondents

Three (8.8%) out of the 34 respondents had a Masters degree in Journalism, 1 had a B.Sc degree (2.9%), 20 (58.8%) had Higher National Diploma in Mass Communication while 10 (29.4%) had a National Diploma certificate in Journalism. Also, results show that 82% are males while 18% are females.

Table 1 below shows responses to questions asked to ascertain respondents’ operational knowledge of ICT applications used in journalism practice.

Table 2 shows questions asked to elucidate answers to the second research question on the constraints of using Information and Communication Technology in news gathering and reporting?

Table 3 shows 23.5% of the respondent agrees that the internet is available and freely accessible while 55.9% disagreed that internet is freely accessible and available for use.

| S/N | Question | Yes (%) | No (%) | I don’t know (%) |
|-----|----------|---------|--------|-----------------|
| 1   | Newly created blogs are viewed through a given URL | 16(47.1) | 7(20.6) | 11(32.4) |
| 2   | Recording, editing, hosting and promotion describe the processes involved in podcasting. | 22(64.7) | 2(5.9) | 10(29.4) |
| 3   | Wiki are websites that allow visitors to edit content. | 13(38.2) | 6(17.6) | 15(44.1) |
| 4   | Can google image search be used to check out the history of a photo? | 22(64.7) | 7(20.6) | 5(14.7) |
| 5   | Are dejero and bambuser useful broadcasting apps? | 10(29.4) | 24(70.6) | 0(0) |
| 6   | Can Instagram be used as a tool in photojournalism? | 9(26.5) | 16(47.1) | 9(26.5) |
Table 2.

| S/N | Question                                                                 | Yes                  | No                  | I don't know |
|-----|--------------------------------------------------------------------------|----------------------|---------------------|--------------|
| 1   | The incessant power supply is one of the factors impeding ICT integration in journalism practice. | 14(41.2%)            | 16(47.1%)           | 4(11.8%)     |
| 2   | Complexities involved in effectively using the ICT facilities (such as digital cameras, computer applications, internet strength etc.), for news processing slows down the processing of news materials. | 12(35.3%)            | 20(58.8%)           | 2(5.9%)      |
| 3   | Frequent staff training is essential for the optimal use of ICT tools and personnel performance in journalism practice. | 32(94.1%)            | 2(5.9%)             | 0(0)         |
| 4   | The cost of purchase and maintenance of ICT tools is quite high and unaffordable. | 9(26.5%)             | 22(64.7%)           | 3(8.8%)      |
| 5   | The epileptic telecommunication network and internet server problem is a major problem in Journalism practice. | 26(76.5%)            | 5(14.7%)            | 3(8.8%)      |

Table 3.

| Variable( In my organization Internet is available, visible and freely accessible everywhere) | SA | A | UN | D | SD | Total |
|--------------------------------------------------------------------------------------------------|----|----|----|---|----|-------|
|                                                                                                                                                   | 14.7% | 8.8% | 20.6% | 44.1% | 11.8% | 100%  |

6. DISCUSSION

The result shows that most (about 71%) of the respondent had a relevant degree which includes Masters, Bachelor of Arts and Higher National Diploma degree while those with Diploma in Journalism were markedly represented in the sample population. Respondents showed a slightly above average knowledge level of podcasting and google image uses (64%). However, there was little knowledge demonstrated in the uses of wiki, dejero/ bambuser etc (38% and 29 % respectively). The professional academic training probably gives credence to the operational knowledge and use of some vital ICT tools employed in modern-day journalism practice. This is in consonance with the opinion of Kaul (2013) stressing the role of the relevant degree in journalism or any of its related fields as a significant variable in the understanding and ultimate effective adoption of modern technology in any profession. Academic knowledge in any journalism-related field is important for practice in the new media journalism practice of today as specialization is essential in all areas of knowledge. Another important finding in this study as reported by the respondents is the issue of constraints such as epileptic telecommunication network/ internet server problem, corporate internet access and the need for frequent on the job staff training (77%, 60%, and 94% respectively). Several studies in Nigeria on ICT usage in any establishment or even individual have often showcased nearly same kinds of constraints reoccurring [20,21].

7. CONCLUSION

The volatility of media in the digital age chaperoned by new IT technologies and internet wired facilities cannot be over-emphasized. Hence, the following recommendations:

1) Media houses should provide corporate internet facilities and infrastructure to facilitate day to day task execution processes.
2) The government should provide an enabling environment, in terms of IT components, to allow for skilful and operational use of IT facilities by media professionals.
3) Consistent staff training and workshops on emerging tools used in achieving communication efficiency as it relates to journalism practice at an improved level.

DISCLAIMER

This paper is based on preliminary dataset. Readers are requested to consider this paper as preliminary research article. Authors are aware that a bigger sample size is required to get a scientifically established interpretation. Readers are requested to use the conclusion of this paper judiciously as sample size is smaller. Authors also recommend bigger sample size for similar future studies.
COMPETING INTERESTS

Authors have declared that no competing interests exist.

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