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Mediatization of the Net and Internetization of the Print Media in Northern Nigeria

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ABSTRACT

The arrival of new media has generated tensions, arguments and debate about the prospects and future of the newspaper industry all over the world. In Northern Nigeria today, media technologies have led to many changes that are seen in the newspaper industry. For instance, technology has broken distance, making communication easier and the information around the world more accessible; it has shrunk both time and space. This situation has generated debates among scholars, about whether the new media technologies would eventually wipe out the conventional media or at least further redefine them. Within this context, this study aims to examine the Mediatization of the net and Internetization of the print media in Northern Nigeria. The study was anchored on the theoretical lens of Diffusion of Innovation Theory. The study adopted the traditional approach of the positivist research design, which informed the choice of survey method, whereby a self-administered questionnaire in the form of a 4-point Likert scale was used to generate data from the study population of 104 journalists working in the selected newspapers, purposive sampling was used to select the newspapers while simple random sampling was used to select the journalists and IBM® SPSS® Statistics was used to analyse the data. Based on the result, the study discovered that new media technologies posed some challenges like inadequate facilities, epileptic internet availability, and inadequate funds for personnel capacity building to the selected newspapers. The study concludes that the need for newspapers to embrace new technologies in content production and news processing is fundamental for the overall success of the print media in Northern Nigeria.

Keywords

Internetization; Mediatization; Net; Northern Nigeria; Print Media.

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INTRODUCTION

The emergence of technologies have great influence on the media to the extent that they go beyond reshaping the culture and practices of the traditional media, which determine how they are used and the consequences they might pose to those using them. Mihailidis & Viotty (2017) align with the description that this perspective refers to the dictum *"technological determinism"* by McLuhan (1994). A situation whereby in-vented technology becomes uncontrollable by the inventors and even the impacts it may carry cannot be controlled or perceived. The revolution of media technology and the growing popularity of the Internet alongside computer applications are greatly helping some media industries in their bid to keep pace with the current develop-ments. However, scholars like Mojaye & Aondover (2022) established that the revolu-tion taking place in a globalizing economy and society is also complicating or widen-ing the gap between the information "haves" and "have-nots" and as such com-pounding the challenge of communicating about the emerging trends in the news-paper industry, particularly now that digitalization has brought a lot of changes in the media activities.

Nigeria is considered the giant of Africa and in terms of print media Nigeria and the newspaper in Nigeria is doing well. In terms of newspaper industries, Nigeria is ranked first, followed by South Africa thereby placing the nation as one of the leading countries in Africa as far as printing is concerned (Aondover, 2020). There were seven registered newspapers in the 70s and the number has increased to one hundred and fifty (150) in the present time (Akinfeleye, 2007; Shehu, 2009). According to Nigerian Press Council (2022), three hundred and ten Nigerian newspapers exist in the country now. Unfortunately, Ahmad (2005) discovered that in the West African sub-region (Northern Nigeria inclusive) there are over 30 million BBC Hausa radio listeners, while over 40 percent of adult population in the North-Western part of Nigeria frequently listen to Hausa radio BBC. It is also on record that 18 to 20 million people listen to the BBC Hausa service on weekly basis (Timmins & Tangaza, 2010) and all of them the North. Thus, posers like how many people read newspaper and how often, create an important knowledge gap in the literature.

In Northern Nigeria today, Kano State alone has over 73 percent of the adult population that frequently listen to BBC Hausa (Ahmad, 2005). In the context of own-ership and control of the media, Oso (2013) rates the North as 1/10, in professionalism 2/10, for training and for management, it is rated 1/10 (Aondover, 2021). This has been a phenomenon that witnesses the emergence of new media posing challenges on old media. This is so because, changes are taking place, which simplified activities in

the newspaper work and has also become remarkable in the 21ˢᵗ dominated innovation era. This is a challenge to the newspaper industries in Northern Nigeria as regard to the future of these newspapers because of the emergence of new technologies.

Media technologies have led to many changes that are seen in the newspaper industry in Nigeria today (Kurfi et al., 2021). For instance, technology has broken distance, making communication easier and the information around the world at its fingertips; it has shrunk both time and space. This situation has generated debates among scholars like (Wilson 2008) as to whether the new media technologies would eventually wipe out the conventional media or at least further redefine them (Lesage & Natale, 2019; Menke & Schwarzenegger, 2019). To say the least, new media technology reduces flipping and increases clicking as Mojaye & Aondover (2022) observed that newspapers are in an eccentric position as people now read stories through the web, which make readership higher than before.

In this direction, newspaper reporters, or journalists are in dilemma of competing with the World Wide Web and the Internet in their efforts to grab audiences. Thus, this trend brings about what could be best described as an effort towards "Mediatization of the Net", a system of making the Internet another form of media, where one can access any information and "Internetization of the print media", a situation whereby one can access any information from the conventional media because of the application of the Internet to transmit content of the newspaper to the audience (Fortunati, 2005; Schulz, 2014).

Within this context, Aondover (2021) remarks that newspaper as a medium is capable of reaching a wide range of audience via a combination of technological mechanism, which facilitates easy production and distribution of million copies across the nation in this digital age. Aondover (2022) submits that the newspaper remains a very big platform whose ability was discovered after the First World War, particularly when broadcasting; radio and television sprung up and began to challenge the potentialities of the newspaper as a channel of information. It, therefore, became a tradition that the emergence of any form of medium invariably poses challenges to the existing ones, while the existing media also try to come up with some ways to respond to the new challenges to survive.

All the areas of people's life endeavours at present are surrounded by new developments offered by technology. In other words, the world has become a "global village" as postulated by McLuhan (1994), which often depict an increasing interaction, and integration among human societies around the world (Antecol, 1999; Dixon, 2009). Accordingly, Onwuka & Eguavoen (2007) argue that the new media platforms enable people to have direct access to media content as receivers and content crea-

tors necessitated by the Internet of things. This development enables the availability of information in the public domain and creates more avenues for the audience to have alternative choice for the kind of information they want to expose themselves to.

Newspaper work in the past was slow and the slowness has affected newspaper development. For instance, traditional newspaper work involved many stages before a story finally gets to the press for rolling. In addition, story editing, picture editing, graphics arts, design, linotype, plate making, etc. were all parts of the long production processes many of which have now been drastically overtaken by technology. Today, there are advanced ways that lessened the entire work, especially by the use of the Internet and computer application in the process of newspaper activities. Globalization and digitalization made huge expansion activities. Following the emergence of digital technologies leading to what can be described as the "death of distance" aided by globalization (Usman et al., 2022).

The new media have broken the distance between people of different locations, rendering some of the due processes in newspaper work irrelevant. A reporter does not need the conventional linear process of sending a story unedited. Even the necessary editing and proofreading can be performed using the computer and the internet. Indeed, a reporter can instantly send in stories through the Internet or using cell phones, this means cutting space and time (Usman, et al., 2022). However, the trends in new media technologies have created several threats and tensions in the conventional system of print media (Matheson, 2004; Bosch et al., 2018), a situation that made communication scholars to question about the future of newspapers in this digital era. The emergence of new forms of media systems based on the digital technologies brought new generation of media that are based on the new media process. This new system is really challenging the old newspaper industry and creating debate among communication scholars. For instance, typewriters, optical telegraphs and other media that were based on old media are now being replaced by the new media.

Motivation of the Study

Some scholars (Arakpogun et al., 2021; Fayoyin, 2021; Gwagwa et al., 2020; Nyam, 2021) agree that the arrival of new media based on the digital production process is challenging the old or conventional media. The questions are: How new are the "new media?" For instance, "is television a new medium?" To answer this, it is fundamental that one can easily say "it was considered a new medium around 1950s as the same as radio in the 1920s or that of cinema in the beginning of the 20th century." The newness of the new media may be true and real because the media were not in existence be-

fore the time in question. Accordingly, all media were once new media. Another question is what challenges, threats and opportunities do the new media have on the existing (conventional) newspaper industry in general and in Nigeria in particular?

The press (newspaper) in society is considered so important that any part of a society that is left behind in terms of excelling in the newspaper, especially in the present revolutionary era, such part of the society is regarded as backward and above all marginalized. In Nigeria, the Southern press is looked at as popular and vibrant compared to the Northern part of the country (Babalola, 2002; Adamu et al., 2006; Ajaero et al., 2016; Demarest et al., 2020). The newspaper industry in the North has begun to realize or recognize the need for an effective and flourishing newspaper industry, especially with the later emergence of private newspapers, based on the digital production process as a result of the new media revolution. One objective that is required of the development of newspapers in the North has been to establish a successful system for expansion by using the new systems of new media technologies. Nevertheless, the fledgling newspaper industry in the North has found it difficult to contend with problems, such as the widening gap between the North and the South, new media challenges and other social-related challenges.

Northern Nigeria is an area that has for a long time been at the tail in terms of development, education and several media industries. Many factors may be attributed to the failure of newspapers in the North. They identified social problems, such as carelessness, poor attitudes of Northern elites as well as nature of the press history in the North, among other factors (Doctor et al., 2011; Green, 2018). With these problems in the North comes another challenge called "the new media technologies." Within this context, this study examined the challenges that newspapers in Northern Nigeria faced as a result of the new media technologies, such as the Internet and computers.

Daily Trust and *Leadership* newspapers, in terms readership, are among the national papers in Nigeria that are affected by the new media technology, especially the application of the Internet and computer. This is because the papers have wide range of coverage on national issues, wide circulation in terms of audience penetration. Hence, their management, content generation, layout, design and general activities might have been also affected. Thus, there is a need to find out the possible challenges that the new media technologies posed to these newspapers, as well as how the newspapers are adapting and responding to the changes. The current study concentrates on the impacts of the Internet, and computer applications on the process of newspaper activities, looking at how these features affect news writing, editing, production, circulation or readership. In this context, *Daily Trust* and *Leadership* newspapers from Northern Nigeria are considered for the study

with the following specific objectives: to ascertain the extent of the application of the new media technologies by *Daily Trust* and *Leadership* newspapers; to examine the nature of the challenges new media technologies posed to *Daily Trust* and *Leadership* newspapers; and to find out the measures being taken by *Daily Trust* and *Leadership* newspapers in response to the challenges of new media technologies.

Newspapers in Northern Nigeria

Communication scholars like Adamu (2006) observed that no news magazine or newspaper existed before in Northern Nigeria as occupation and subsequent coloni-zation of the region by the British imperial force despite the literacy and intellectual history of the region in terms of Islamic learning and culture (Kintz, 2007; Tafida, 2015). British colonial rulers introduced a trilingual newspaper around 1932 called Northern Provinces News/*Jaridar Nigeria Ta Arewa/Jaridat al Nijeriya al Shimaliyya.* It was 22 pages published four times a year and sold at half a penny (sisi). This newspaper or periodical reports news on colonial policies and colonial administration activities.

On January 1939, a full-pledged Hausa newspaper *Gaskiya Ta Fi Kwabo* came in-to existence. Its first editor was the famous Hausa writer, the late Malam Abubakar Imam (Sklar, 1964). Several reasons were forwarded as factors that led to the estab-lishment of *Gaskiya Ta Fi Kwabo.* Adamu (2006) argues that the Second World War was partly responsible as the British feared German and other propaganda through the radio and other means. While Adamu (2006) sees the struggle between Northern-ers and Southerners in Nigerian politics, the latter can be viewed as a misrepresenta-tion of the former. Whatever the case, Yahaya (1988) maintained that *Gaskiya Ta Fi Kwabo* was intended to be distributed to all Northern provinces and serve as an en-lightenment medium and opinion molder. It reported local, national and international news to its readers. Around 1941, full-out sheets in *Ajami* form of written Hausa were introduced for those who could not read the Roman Script. It was called `*Yar Gaskiya* (Ajami News Sheets) (Kraśniewski, 2015). *Suda*, another Hausa newspapers, hit the stand in 1941, and was more or less a war propaganda newspaper published once every two weeks (Adamu, 2006).

The idea of transmission of information and messages from one place to the oth-er has been as old as human evolution. During the middle age, there were effective ways of dissemination of information through Churches, which were independent of the media (Dominick, 2012; McQuail & Deuze, 2020). However, when the art of printing came, the Churches felt their institutions of information dissemination were chal-lenged and as such fiercely reacted. The earliest technological innovation that led to tremendous change in newspaper publishing and printing was the machine Gutten-

berg invented in the 1440s. However, a high-speed digitized form of newspaper work, which can produce millions of copies in a few minutes, has replaced the time of using hand composition, linotype operator, photo setting, intaglio, monotype caster, etc. (Anaeto et al., 2008; R. Hassan, 2017; Wajcman, 2018).

McQuail & Deuze (2020) submit that the movable type of machines for printing and the use of technologies were known and applied in China and Korea long before Guttenberg, who is credited as the (European) inventor in the mid-fifteenth century. In Russia, printing was not introduced until the early seventeenth century and in Ottoman Empire in 1726 (Turkey). A Boston-based printer called Benjamin Harris printed the first newspaper (in America) in 1690. The first challenge it faced was lack of freedom of expression because the first paper was shut down after it reported an alleged affair between the King of France and his son's wife. Following its demise, *Boston News Letter* came to the limelight after twelve years. Lack of freedom as a challenge affected the paper; it published stories with permission from authorities, and it was therefore dull (Brannon, 2018; Kluger & Kluger, 1986).

Subsequently, upon lack of freedom, *New England Courant* came to the scene without seeking any permission from the government. The publisher of the paper, James Franklin, being a brother to the first printer, was dragged into the mud by the authorities. When Franklin was jailed, his brother Ben took over the paper, but later migrated to Philadelphia where he established a paper called *"Pennsylvanian Gazette."* The paper was boasting of its new styles of headlines, layout, and legibility due to the technology it adopted. The newspaper faced a fierce challenge as a result of the tensions between the press and the authorities. One of the most popular challenges was the trial of John Peter Zenger who published what criticized the then British authorities. He was jailed and later acquitted (Fireoved, 1985; Franklin & Miller, 2012).

Another turning point in the history of the newspaper was the political press that came along with the revolutionary war, where most papers were partisan. The political press lasted between the 1790s to 1833. Daily newspapers developed slowly in the 19th century. One basic thing about the newspaper was that most of the readers were literates, elites or those that were rich in the society as well as those that have money to subscribe for editions. The invention of the printing press, qualified staff with technical know-how and an increasing number of audiences helped at the beginning of the mass newspaper. Steam-powered presses that produce large copies were invented and put to use for newspaper production. An increased level of education also contributed to the mass production of the newspaper.

Aondover (2022) observed that what affected newspapers the most from 1900 to the 1920s were new technologies. While advertising revenue was the mainstay of a

newspaper, advertisers themselves preferred papers that have a wide circulation, whereas the new technologies proved hard-to-reach to many industries. For example, Linotype machines, and high-speed press were too much for the newspaper industry. In the 1930s, two major issues contributed to the massive decline of newspapers. First, the newspaper industry was challenged by bad economic conditions. Secondly, the emergence of radio and television; though newspapers picked up following an increase in advertising revenue around the 1940s. From 1945 to the 1970s and in the 80s newspaper circulation had almost reached 70 million. On the survival of newspapers amidst different challenges and changes in technology, newspapers had tried in their struggle with change in the business and other social and technological challenges (Dominick, 2009, p. 89). The newspaper also survived the intense competition of the emergence of both radio and television. With the significant change, the newspaper is seen to have withstood and survived in the new media technologies.

To assess newspaper evolution, McQuail & Deuze (2020) identifies the newspaper based on its technology and material form, adding that it took nearly two hundred years after the invention of printing before the conventional newspaper came to the limelight, which was circulated via postal services. The early newspaper was merely view paper because it was an instrument of the authority, without a definite source, being compiled by printer-publisher. It was the coming of commercial newspapers that gave shape to the newspaper industry. The first challenge newspaper faced as mentioned earlier include control, and lack of freedom. It became a true mass medium during the twentieth century, reaching a large population of audience. The newspaper continued to develop in different forms from commercial newspapers to party-political newspapers, prestige, and the popular press.

Aondover (2022) noted that newspaper has witnessed several threats to changing process of technology in the West and any part of African countries, just like other parts of the world; in Nigeria, particularly in the North, the newspaper industry is not an exception to the new revolution of the media technology because newspapers are inseparable of the society. The nature of newspaper content, advertorial, editorial, production process, organizational structure, nature of reporting, format, printing process, readership, and credibility among others can all be affected by the changing technologies. Most importantly, the arrival of new media has generated tensions, arguments and debate about the prospects and future of the newspaper industry all over the world.

Interrogating Media Technology

The transmission and reception of information in the modern world of technology have greatly broadened the revolution in both national and international communication and all the spheres of the society. For example, television as far back as the late 80s has aided in the transmission of audio-visual entertainment, and educational and informative content to various homes. The new media technologies made broadcast visual of entertainment and news television sets not only the receivers but were also connected to video recorders and computers as new media of domestic entertainment (Lehman-Wilzig & Cohen-Avigdor, 2004; Kompare, 2006; Murphy, 2011; Aondover, 2022). These new technologies had posed new challenges to the newspaper industry, especially in African countries that are considered information "have nots". One key issue he centers on was the control of the newspaper industry, which according to him was assumed to be the key to the holding of power in any society. There is a great challenge for governments and societies to be able to strike a balance with the challenges of information control, looking at what communication can do (uses) in any given society.

The new media technologies struggle to engulf the traditional media and when there is a struggle between the old and new media there would be what is called *functional displacement*. It refers to an idea referring to the struggle for up-starting media industries (internet, computer, etc.), to reap enormous profits and the efforts of the old media (conventional newspapers) to gain control of new technologies to survive (Kayany & Yelsma, 2000; Vyas et al., 2007; Aondover, 2022; Bakke & Barland, 2022). The newspaper industry in the past three to four decades witnessed tremendous change. The use of new media technologies like the internet has created intense competition among media industries. The growing use of new media technologies increases competition and reinforces the threats that newspapers face (Bardoel & Deuze, 2001; Gilbert, 2005; Papathanassopoulos et al., 2013; Aondover, 2021).

THEORETICAL FRAMEWORK

This study is anchored on the theoretical lens of Diffusion of Innovation Theory. Historically, the theory was first established in 1903 by Gabriel Tarde, a French Sociologist, who formed the S-shaped diffusion curve (Kinnunen, 1996; Toews, 2003), followed by Ryan & Gross (1943) that advocate the adopter categories (Valente & Rogers, 1995; Valente, 1996) which was later popularized by Rogers (2003). Katz (1957) also introduced the notion called opinion leader and opinion followers which show how the media can influence these two groups. Diffusion of Innovation theory is therefore regarded as a valuable change model for guiding technological innovation where the

innovation itself is modified and presented in different ways that meet the needs in all levels of the adopters. The theory also emphasizes the imperativeness of communication and peer networking in the adaptation process (Kaminski, 2011).

The theory refers to the process that occurs as people adopt a new idea, product, practice, philosophy, among others. Rogers (2003) outlined the process, pointing out that in most cases, an initial few are open to the new idea and adopt its use. As the early innovators 'spread the word' more to people that are open to it, which led to the development of a critical mass. In this context, the innovation of ideas is diffused among the population to a point of saturation. This creates ways for the adopters to see the need to embrace a new technology. Rogers (2003) differentiated five categories of adopters of innovation starting from innovators, early adopters, early majority, late majority, and laggards. In other context, a sixth group is added as non-adopters (Ukwela, 2021).

Thus, the original five categories are illustrated in the bell-shaped image which Rogers estimated the percentage of each of the category that is somewhat similar to the proportions found in a normal bell-curve. Establishing the nexus between the theory and the study, it is important to note that the Internet may foster newspaper presentations now and in the future by the few adopters as newspapers may help popularize the innovation of the Internet and in news production in Northern Nigeria.

METHOD

This study adapted the traditional approach of the positivist research design, which informed the choice of face-to-face survey method. The positivist school of thought subscribes to the quantitative method of data generation. Within this context, a self-administered questionnaire in the form of a 4-point Likert scale was used to collect the respondents' opinions. According to Wimmer & Dominick (2013), Likert-scale is the most often used questioning technique in media research. The study population consists of 104 journalists working in the selected newspapers. The criteria for the selected journalists were based on working experience of five years and above and the selected journalists have such criteria. Purposive sampling was used to select the newspapers while simple random sampling was used to select the journalists based on the list (sample frame) obtained from the selected newspapers. Content validity was used to validate the research instrument, whereby experts in the field of communication made corrections and suggestions that improved the quality of the research instrument. IBM® SPSS® Statistics was used to analyze the data. In analyzing the data, *Daily Trust* was coded with *DT* while the Leadership newspaper was coded with *LS.*

RESULTS AND DISCUSSION

Respondents' answers to question regarding the extent of the application of the new media technologies by *Daily Trust* and *Leadership* newspapers are presented in Table 1. The data in the table indicates that 23.1% (N=24) of the respondents said the extent of the application of the new media technologies by Daily Trust and Leadership newspapers is very much, 30.8% (N=32) said much, 40.4% (N=42) said not much and 5.8% (N=6) said not at all. This means that the extent of the application of the new media technologies by the selected newspapers is not much.

Table 1

The extent of the application of the new media technologies by Daily Trust and Leadership newspapers

Variables	DT	LS	Total	%
Very much	13	11	24	23.1
Much	18	14	32	30.8
Not much	23	19	42	40.4
Not at all	4	2	6	5.8
Total	58	46	104	100

Source: Primary data.

Previous research in different context (Sparks et al., 2016; Oktoviani et al., 2021; Puijk et al., 2021) indicate the importance of new media technologies application for newspapers sustainability. The governing body behind newspapers tend to under-stand the importance of such application and try its best although some challenges (economic, political, and so on) always appear. In the context of the media in North-ern Nigeria, these challenges might be bigger and thus slow the progress for new media technologies application.

Further question to respondents was about the challenges on new media tech-nologies application in two newspapers in the Northern Nigeria. Table 2 summarize the results of respondents' answers to this question. The data suggests that 18.3% (N=19) of the respondents are of the view that inadequate man-power is a challenge, 19.2% (N=20) said epileptic internet availability, 26.9% (N=28) agree on inadequate funds for personnel capacity building, and 35.6% (N=37) of the respondents settle on inadequate digital facilities. This means that inadequate digital facilities constitute a major challenge of the new media technologies posed to the selected newspapers.

Table 2

The challenges new media technologies posed to Daily Trust and Leadership newspapers

Variables	DT	LS	Total	%
Inadequate man-power	9	10	19	18.3
Epileptic internet availability	12	8	20	19.2
Inadequate funds for personnel capacity building	15	13	28	26.9
Inadequate digital facilities	22	15	37	35.6
Total	58	46	104	100

Source: Primary data.

What affected newspaper the most in 1900 to 1920s were new technologies, especially lack of digital equipment. While advertising revenue was the mainstay of a newspaper, advertisers themselves preferred paper that has wide circulation. McQuail & Deuze (2020) also identifies the newspaper based on its technology and material form, adding that it took nearly two hundred years after invention of printing before the conventional newspaper came to limelight, which was basically circulated via postal services (Pred, 1971; Boczkowski, 2005; Asemah & Edegoh, 2012).

The respondents were asked about what the newspaper management has done as response to the challenges of new media technologies. Table 3 summarizes the answers from respondents on the matter. The results indicate that 19.2% (N=20) of the respondents agree that to improve on the area of man-power is one of the responses to the challenges of new media technologies. 18.3% (N=19) said provision for the availability of the internet, 24.0% (N= 25) said to ensure adequate funds for personnel capacity building, and 38.5% (N=40) of the respondents agree on the need to ensure adequate digital facilities. Based on the result of the study, the need to ensure adequate digital facilities by the selected newspapers is a major response to the challenges of new media technologies.

Table 3

The measures taken by Daily Trust and Leadership newspapers in response to the challenges of new media technologies

Variables	DT	LS	Total	%
To improve on the area of man-power	12	8	20	19.2
Provision for the availability of the internet	9	10	19	18.3
Ensure adequate funds for personnel capacity building	13	12	25	24.0
To ensure adequate digital facilities	24	16	40	38.5
Total	58	46	104	100

Source: Primary data.

Digital era that brought many advancements in media technology has challenged the existence of print media. In many studies (I. Hassan et al., 2018; Alfani,

2020; Firmansyah et al., 2022), the survival of print media can be achieved by owners' willingness to adapt and innovate. Adaptation and innovation can be in the form of utilizing online media as complementary of print media, creating more relevant contents, and being present in the social media platforms. The newspapers in the Northern Nigeria can also use some above-mentioned adaptations and innovations to ensure its business cycles.

Since technology adaption is important for newspapers' survival in the digital age, next question to respondents was about their level of satisfaction regarding this. Table 4 shows respondents' answers to the question regarding technology adaption in the newspapers. The data in the table indicates the level of satisfaction with technology adaption by *Daily Trust* and *Leadership* newspapers. Based on the data, 10.6% (N=11) of the respondents said highly satisfactory, 17.3% (N=18) said fairly satisfactory, and 29.8% (N=31) of the respondents settle on not satisfactory. This shows that the level of satisfaction with technology adaption by *Daily Trust* and *Leadership* newspapers within the period of the study is not satisfactory.

Table 4

The level of satisfaction with technology adaption by Daily Trust and Leadership newspapers

Variables	DT	LS	Total	%
Highly satisfactory	6	5	11	10.6
Satisfactory	11	7	18	17.3
Fairly satisfactory	16	15	31	29.8
Not satisfactory	25	19	44	42.3
Total	58	46	104	100

Source: Primary data.

Adaptation process by a newspaper to transform its business with a more digital aspects took different stages in many countries. Despite its benefit in spreading news faster, adoption to the new technologies also have negative impact gradually on those who failed to adapt (Ahmed et al., 2020). The process to adopt new technology is determined by many factors: firm's capacity to adopt new technology (Genesove, 1999), redefinition of roles in the newspaper (Garrison, 2001), management insight to use innovative the technology (Saksena & Hollifield, 2002), etc. Hesitance to adopt new technology, as this study suggests, was also found by Salawu (2018) in the context of newspapers based on African languages. He further suggests the newspapers to be more engaged in social media as critical medium for transforming print newspapers to compete in the digital age. Other studies also emphasize the importance of social media networks for newspapers (Hong, 2012; Gul, 2013; Heo & Park, 2014; Xu, 2017).

Journalists as main manpower behind newspapers also face some challenges from the new digital technologies. For this reason, training them with a more up to date technologies as well as approaches is required to maintain their capacity. Table 5 shows respondents' answer to question regarding newspapers contribution to journalistic training. The data in the table indicates whether the two newspapers contribute toward journalistic training. Based on the data, 69.2% (N=72) of the respondents said negative, 22.1% (N=23) said positive, and 8.6% (N=9) said neutral. This means that Daily Trust and Leadership newspapers do not adequately contribute toward journalistic training within the period of the study.

Table 5

Daily Trust and Leadership contribution toward journalistic training

Variables	DT	LS	Total	%
Negative	34	38	72	69.2
Positive	17	6	23	22.1
Neutral	7	2	9	8.6
Total	58	46	104	100

Source: Primary data.

Training for journalists has been a priority of international body to improve journalists capacity (UNESCO, 1958). Journalism training and education have were also critical aspects to improve work quality of journalists (Deuze, 2006; Frith & Meech, 2007). On the other hand, the use of new technology also impacts the journalism training and education in many ways, especially in its delivery process (Maniou et al., 2020). Having these facts in mind, it would be an important step for media owners to update their journalists with relevant training and education. These training and education would benefit the newspaper not only in their capacity to survive in facing the new media challenges, but also to improve the values of journalism in the area.

Within the theoretical context, the position of the theory of Diffusion of Innovation is clear as one of the valuable changing models for guiding technological innovation. The innovation itself is modified and presented in ways that meet the needs in all levels of adopters. The theory also emphasizes the imperativeness of the new ways of communication and how to peer networking in the adaptation process, which could be a vital component in the operation of newspapers in Northern Nigeria. As such, the tenets or the theoretical postulations serve the study goal.

CONCLUSION

This study examined Mediatization of the net and Internetization of the print media in Northern Nigeria. The implication of the study connotes that with the availability of

technology and the growing popularity of the Internet alongside computer application, there is a need for newspapers operating in Northern Nigeria to embrace this new trend for news production and distribution. Within the context of the findings, the study discovered the extent of the application of the new media technologies by the selected newspapers is not much. Again, inadequate digital facilities constitute a major challenge to the new media technologies posed to the selected newspapers.

Based on the result, the need to ensure adequate digital facilities is a major response to the challenges of new media technologies by the selected newspapers. Similarly, the level of satisfaction with technology adaption by *Daily Trust* and *Leadership* newspapers within the period of the study is not satisfactory. The findings also point that *Daily Trust* and *Leadership* newspapers do not adequately contribute toward journalistic training. The study concludes that the need for newspapers to embrace new technologies in content production and news processing is fundamental for the overall success of the print media in Northern Nigeria. This will facilitate easy access to information and quality content production to a wider scope that could promote professional journalistic practice in Northern Nigeria.

REFERENCES

Adamu, Y. M. (2006, January 1). *Print and broadcast media in Northern Nigeria* [PDF]. ResearchGate.
https://www.researchgate.net/publication/237773440_PRINT_AND_BROADCAST_MEDIA_IN_NORTHERN_NIGERIA

Adamu, Y. M., Mohammed, H., & Dandago, K. I. (2006). *Readings in social science research*. Adamu Joji Publishers.

Ahmad, G. (2005). *Gaskiya Tafi Kwabo: From Colonial Service to community beacon*. Departmental Seminar Series, Bayero University, Kano, Nigeria.

Ahmed, S. F., Saha, P., & Haque, S. M. T. (2020). Technology adoption dynamics of the press workers in Bangladesh. *Proceedings of the 3rd ACM SIGCAS Conference on Computing and Sustainable Societies*, 148–159. https://doi.org/10.1145/3378393.3402270

Ajaero, C. K., Odimegwu, C., Ajaero, I. D., & Nwachukwu, C. A. (2016). Access to mass media messages, and use of family planning in Nigeria: A spatio-demographic analysis from the 2013 DHS. *BMC Public Health*, *16*(1), 427. https://doi.org/10.1186/s12889-016-2979-z

Akinfeleye, R. (2007). *Essentials of journalism: Introductory text for the beginner*. Unimedia.

Alfani, H. (2020). Local newspaper strategy to survive in the digital era. *Mediator: Jurnal Komunikasi, 13*(1), Article 1. https://doi.org/10.29313/mediator.v13i1.5788

Anaeto, S. G., Onabajo, S., & Osifeso, J. B. (2008). *Models and theories of communication*. African Renaissance books incorporated Bowie.

Antecol, M. (1999). Abstracting the later McLuhan: Television's cool role in the creation of the global village. *Canadian Journal of Communication*, *24*(2). https://doi.org/10.22230/cjc.1999v24n2a1096

Aondover, E. M. (2020). Internet meme as a campaign tool to the fight against Covid-19 in Nigeria. *Global Journal of Human-Social Science Research (A) Arts & Humanities - Psychology*, *20*(6 Version 1.0), 27–39. https://globaljournals.org/GJHSS_Volume20/4-Internet-Meme-as-a-Campaign.pdf

Aondover, E. M. (2021). Content analysis of hate speech in the 2019 General Elections in three Nigerian newspapers. *American Journal of Multidisciplinary Research in Africa*, *1*(3), 1–9. https://doi.org/10.58314/088976

Aondover, E. M. (2022). Interpretative phenomenological analysis of hate speech among Editors of *Daily Trust, The Nation* and *The Guardian* newspapers in Nigeria. *Konfrontasi: Jurnal Kultural, Ekonomi Dan Perubahan Sosial*, *9*(2), Article 2. https://doi.org/10.33258/konfrontasi2.v9i2.209

Arakpogun, E. O., Elsahn, Z., Olan, F., & Elsahn, F. (2021). Artificial intelligence in Africa: Challenges and opportunities. In A. Hamdan, A. E. Hassanien, A. Razzaque, & B. Alareeni (Eds.), *The Fourth Industrial Revolution: Implementation of Artificial Intelligence for Growing Business Success* (pp. 375–388). Springer International Publishing. https://doi.org/10.1007/978-3-030-62796-6_22

Asemah, E. S., & Edegoh, L. O. (2012). New media and political advertising in Nigeria: Prospects and challenges. *African Research Review*, *6*(4), Article 4. https://doi.org/10.4314/afrrev.v6i4.17

Babalola, E. T. (2002). Newspapers as instruments for building literate communities: The Nigerian experience. *Nordic Journal of African Studies*, *11*(3), Article 3. https://doi.org/10.53228/njas.v11i3.350

Bakke, N. A., & Barland, J. (2022). Disruptive innovations and paradigm shifts in journalism as a business: From advertisers first to readers first and traditional operational models to the AI factory. *SAGE Open*, *12*(2), 21582440221094820. https://doi.org/10.1177/21582440221094819

Bardoel, J., & Deuze, M. (2001). "Network journalism": Converging competencies of old and new media professionals. *Australian Journalism Review*, *23*(2), 91–103. https://doi.org/10.3316/ielapa.200204961

Boczkowski, P. J. (2005). *Digitizing the news: Innovation in online newspapers* (New edition). The MIT Press.

Bosch, T., Wasserman, H., & Chuma, W. (2018). South African activists' use of nanomedia and digital media in democratization conflicts. *International Journal of Communication*, *12*(0), Article 0. https://ijoc.org/index.php/ijoc/article/view/6419

Brannon, F. (2018). The press of the Cherokee Phoenix Newspaper as artifact. *Native South*, *11*, 117–143. https://doi.org/10.1353/nso.2018.0004

Demarest, L., Godefroidt, A., & Langer, A. (2020). Understanding news coverage of religious-based violence: Empirical and theoretical insights from media representations of Boko Haram in Nigeria. *Journal of Communication*, *70*(4), 548–573. https://doi.org/10.1093/joc/jqaa011

Deuze, M. (2006). Global journalism education: A conceptual approach. *Journalism Studies*, *7*(1), 19–34. https://doi.org/10.1080/14616700500450293

Dixon, V. K. (2009). Understanding the implications of a global village. *Inquiries Journal*, *1*(11). http://www.inquiriesjournal.com/articles/1681/understanding-the-implications-of-a-global-village

Doctor, H. V., Findley, S. E., Bairagi, R., & Dahiru, T. (2011). Northern Nigeria maternal, newborn and child health programme: Selected analyses from population-based baseline survey. *The Open Demography Journal*, *4*(1). https://benthamopen.com/ABSTRACT/TODEMOJ-4-11

Dominick, J. R. (2009). *The dynamics of mass communication: Media in the digital age* (10th Edition). McGraw-Hill Higher Education.

Dominick, J. R. (2012). *Dynamics of mass communication: Media in transition* (12th edition). McGraw Hill.

Fayoyin, A. (2021). Understanding the knowledge society, artificial intelligence and media nexus. In A. Fayoyin & I. Ademosu (Eds.), *Knowledge societies: Artificial intelligence and the media*. UNESCO/ACSPN.

Fireoved, J. (1985). Nathaniel Gardner and the "New-England Courant." *Early American Literature*, *20*(3), 214–235. https://www.jstor.org/stable/25055558

Firmansyah, F., Novita, S., Rachmiatie, A., K, S. S., Sobur, A., & Putri, D. W. (2022). How the print media industry survived in the digital era. *Jurnal ASPIKOM*, *7*(1), Article 1. https://doi.org/10.24329/aspikom.v7i1.1013

Fortunati, L. (2005). Mediatization of the net and internetization of the mass media. *Gazette (Leiden, Netherlands)*, *67*(1), 27–44. https://doi.org/10.1177/0016549205049177

Franklin, B., & Miller, P. (2012). *The New England Courant: A selection of certain issues containing writings of Benjamin Franklin*. Literary Licensing, LLC.

Frith, S., & Meech, P. (2007). Becoming a journalist: Journalism education and journalism culture. *Journalism*, *8*(2), 137–164. https://doi.org/10.1177/1464884907074802

Garrison, B. (2001). Diffusion of online information technologies in newspaper newsrooms. *Journalism*, *2*(2), 221–239. https://doi.org/10.1177/146488490100200206

Genesove, D. (1999). *The adoption of offset presses in the daily newspaper industry in the united states* (Working Paper No. 7076). National Bureau of Economic Research. https://doi.org/10.3386/w7076

Gilbert, C. G. (2005). Unbundling the structure of inertia: Resource versus routine rigidity. *Academy of Management Journal*, *48*(5), 741–763. https://doi.org/10.5465/amj.2005.18803920

Green, L. (2018). Migration, urbanization, and national development in Nigeria. In S. Amin (Ed.), *Modern Migrations in Western Africa* (1st Edition, First Published 1974, pp. 281–304). Routledge. https://doi.org/10.4324/9781351044073-12

Gul, S. (2013). Adoption of social media by online newspapers of Kashmir. *Annals of Library and Information Studies (ALIS)*, *60*(1), Article 1. https://doi.org/10.56042/alis.v60i1.464

Gwagwa, A., Kraemer-Mbula, E., Rizk, N., Rutenberg, I., & de Beer, J. (2020). Artificial intelligence (AI) deployments in Africa: Benefits, challenges and policy dimensions. *The African Journal of Information and Communication*, *26*, 1–28. https://doi.org/10.23962/10539/30361

Hassan, I., Azmi, M. N. L., & Nasidi, Q. Y. (2018). The survival of Nigerian newspapers in digital age of communication. *International Journal of Asian Social Science*, *8*(9), Article 9. https://doi.org/10.18488/journal.1.2018.89.631.637

Hassan, R. (2017). *The age of distraction: Reading, writing, and politics in a high-speed networked economy*. Routledge. https://doi.org/10.4324/9781315130880

Heo, Y. C., & Park, H. W. (2014). How are newspaper companies using social media to engage and connect with their audiences? Characteristics and forms of Korean newspapers' YouTube use. *Quality & Quantity*, *48*(5), 2899–2914. https://doi.org/10.1007/s11135-013-9931-4

Hong, S. (2012). Online news on Twitter: Newspapers' social media adoption and their online readership. *Information Economics and Policy*, *24*(1), 69–74. https://doi.org/10.1016/j.infoecopol.2012.01.004

Kaminski, J. (2011). Diffusion of innovation theory. *Canadian Journal of Nursing Informatics*, *6*(2), Theory in Nursing Informatics Column. https://cjni.net/journal/?p=1444

Katz, E. (1957). The two-step flow of communication: An up-to-date report on an hypothesis. *The Public Opinion Quarterly*, *21*(1), 61–78. https://www.jstor.org/stable/2746790

Kayany, J. M., & Yelsma, P. (2000). Displacement effects of online media in the socio-technical contexts of households. *Journal of Broadcasting & Electronic Media*, *44*(2), 215–229. https://doi.org/10.1207/s15506878jobem4402_4

Kinnunen, J. (1996). Gabriel Tarde as a founding father of innovation diffusion research. *Acta Sociologica*, *39*(4), 431–442. https://www.jstor.org/stable/4194846

Kintz, L. F. (2007). Overview of current media practices and trends in West Africa. *Global Media Journal*, *6*(10). https://www.globalmediajournal.com/ peer-reviewed/ overview-of-current-media-practices-and-trends-in-west-africa-35206.html

Kluger, R., & Kluger, P. (1986). *The paper: The life and death of the New York Herald Tribune* (1st edition). Knopf.

Kompare, D. (2006). Publishing flow: DVD box sets and the reconception of television. *Television & New Media*, *7*(4), 335–360. https://doi.org/10.1177/1527476404270609

Kraśniewski, M. (2015). Pictures in transition: Media and popular culture in Hausa society. *Hemispheres*, *31*(4), 5–23. https://www.proquest.com/openview/9568bfe578653c02212fb0659d187d87

Kurfi, M. Y., Aondover, E. M., & Mohamed, I. (2021). Digital images on social media and proliferation of fake news on Covid-19 in Kano, Nigeria. *Galactica Media: Journal of Media Studies*, *3*(1), 103–124. https://doi.org/10.46539/gmd.v3i1.111

Lehman-Wilzig, S., & Cohen-Avigdor, N. (2004). The natural life cycle of new media evolution: Inter-media struggle for survival in the internet age. *New Media & Society*, *6*(6), 707–730. https://doi.org/10.1177/146144804042524

Lesage, F., & Natale, S. (2019). Rethinking the distinctions between old and new media: Introduction. *Convergence*, *25*(4), 575–589. https://doi.org/10.1177/1354856519863364

Maniou, T. A., Stark, A., & Touwen, C. J. (2020). Journalism training beyond journalism schools. *Journalism & Mass Communication Educator*, *75*(1), 33–39. https://doi.org/10.1177/1077695820904979

Matheson, D. (2004). Weblogs and the epistemology of the news: Some trends in online journalism. *New Media & Society*, *6*(4), 443–468. https://doi.org/10.1177/146144804044329

McLuhan, M. (1994). *Understanding media: The extensions of man* (Reprint edition). The MIT Press.

McQuail, D., & Deuze, M. (2020). *McQuail's media and mass communication theory* (7th edition). SAGE Publications Ltd.

Menke, M., & Schwarzenegger, C. (2019). On the relativity of old and new media: A lifeworld perspective. *Convergence*, *25*(4), 657–672. https://doi.org/10.1177/1354856519834480

Mihailidis, P., & Viotty, S. (2017). Spreadable spectacle in digital culture: Civic expression, fake news, and the role of media literacies in "post-fact" society. *American Behavioral Scientist*, *61*(4), 441–454. https://doi.org/10.1177/0002764217701217

Mojaye, E. M., & Aondover, E. M. (2022). Theoretical perspectives in world information systems: A propositional appraisal of new media-communication imperatives. *Journal of Communication and Media Research*, *14*(1 Special Issue 2), 100–106. https://www.jcmrjournal.org/article?id=490

Murphy, S. C. (2011). *How television invented new media*. Rutgers University Press.

Nigeria Press Council. (2022). *Newspaper and magazine distribution across geopolitical zones* (Annual report). Nigeria Press Council.

Nyam, I. I.-T. (2021). Digital dichotomy theory towards propositional appraisal of artificial intelligence based media-communication imperatives. In A. Fayoyin & I. Ademosu (Eds.), *Knowledge societies: Artificial intelligence and the media*. UNESCO/ACSPN.

Oktoviani, M. B. E., Kurniasari, F., & Juliadi, R. (2021). Digital newspaper as an alternative solution to maintain the existence of print media in PT OKT. *Conference Series*, *3*(2), 469–482. https://doi.org/10.34306/conferenceseries.v3i2.614

Onwuka, E. C., & Eguavoen, A. (2007). Globalization and economic development: The Nigerian experience. *Journal of Social Sciences*, *14*(1), 45–51. https://doi.org/10.1080/09718923.2007.11978398

Oso, L. (2013). Media and democracy in Nigeria: A critique of liberal perspective. *New Media and Mass Communication*, *10*, 13. https://doi.org/10.7176/NMMC.vol1013-22

Papathanassopoulos, S., Coen, S., Curran, J., Aalberg, T., Rowe, D., Jones, P., Rojas, H., & Tiffen, R. (2013). Online threat, but television is still dominant: A comparative study of 11 nations' news consumption. *Journalism Practice*, *7*(6), 690–704. https://doi.org/10.1080/17512786.2012.761324

Pred, A. R. (1971). Urban systems development and the long-distance flow of information through preelectronic U. S. newspapers. *Economic Geography*, *47*(4), 498–524. https://doi.org/10.2307/142641

Puijk, R., Hestnes, E. B., Holm, S., Jakobsen, A., & Myrdal, M. (2021). Local newspapers' transition to online publishing and video use: Experiences from Norway. *Journalism Studies*, *22*(9), 1123–1141. https://doi.org/10.1080/1461670X.2021.1922303

Rogers, E. M. (2003). *Diffusion of innovations* (5th edition). Free Press.

Ryan, B., & Gross, N. C. (1943). The diffusion of hybrid seed corn in two iowa communities. *Rural Sociology*, *8*(1), 15. https://www.proquest.com/openview/7de2b2276a089fe888071663de12b6a0

Saksena, S., & Hollifield, C. A. (2002). U.S. Newspapers and the development of online editions. *International Journal on Media Management*, *4*(2), 75–84. https://doi.org/10.1080/14241270209389984

Salawu, A. (2018). Alaroye, Isolezwe and the adoption of digital technologies. In *African language digital media and communication* (pp. 33–45). Routledge. https://doi.org/10.4324/9781351120425-3

Schulz, W. (2014). Mediatization and new media. In F. Esser & J. Strömbäck (Eds.), *Mediatization of Politics: Understanding the Transformation of Western Democracies* (pp. 57–73). Palgrave Macmillan UK. https://doi.org/10.1057/9781137275844_4

Shehu, G. N. (2009). *Newspapers in Northern Nigeria: A study of ownership and control of New Nigerian and Triumph Newspapers from military to democratic governance* [Master's thesis]. University of Lagos.

Sklar, R. L. (1964). Regionalism and the emergence of a three-party system. In *Nigerian political parties* (pp. 87–140). Princeton University Press. https://doi.org/10.1515/9781400878239-005

Sparks, C., Wang, H., Huang, Y., Zhao, Y., Lü, N., & Wang, D. (2016). The impact of digital media on newspapers: Comparing responses in China and the United States. *Global Media and China*, *1*(3), 186–207. https://doi.org/10.1177/2059436416666385

Tafida, A. (2015). Overview of history, origin and development of the mass media in Northern Nigeria (1930-2014). *South East Asia Journal of Contemporary Business, Economics and*

Law, *8*(3), 52–58. https://seajbel.com/wp-content/uploads/2016/01/ECON-104-ABDULLAHI1.pdf

Timmins, J., & Tangaza, J. (2010, January 12). BBC Hausa interview with President Yar'Adua [HTML]. *BBC - The Editors*. https://www.bbc.co.uk/blogs/theeditors/2010/01/bbc_interview_with_president_y.html

Toews, D. (2003). The new Tarde: Sociology after the end of the social. *Theory, Culture & Society*, *20*(5), 81–98. https://doi.org/10.1177/02632764030205004

Ukwela, C. O. (2021). Knowledge societies: Artificial intelligence and the media. In A. Fayoyin & I. Ademosu (Eds.), *Knowledge societies: Artificial intelligence and the media*. UNESCO/ACSPN.

UNESCO. (1958). *The training of journalists: A world-wide survey on the training of personnel for the mass media*. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000043231

Usman, B., Eric Msughter Aondover, & Ridwanullah, A. O. (2022). Social media literacy: Fake news consumption and perception of COVID-19 in Nigeria. *Cogent Arts & Humanities*, *9*(1), 2138011. https://doi.org/10.1080/23311983.2022.2138011

Valente, T. W. (1996). Social network thresholds in the diffusion of innovations. *Social Networks*, *18*(1), 69–89. https://doi.org/10.1016/0378-8733(95)00256-1

Valente, T. W., & Rogers, E. M. (1995). The Origins and Development of the Diffusion of Innovations Paradigm as an Example of Scientific Growth. *Science Communication*, *16*(3), 242–273. https://doi.org/10.1177/1075547095016003002

Vyas, R. S., Singh, N. P., & Bhabhra, S. (2007). Media displacement effect: Investigating the impact of internet on newspaper reading habits of consumers. *Vision*, *11*(2), 29–40. https://doi.org/10.1177/097226290701100205

Wajcman, J. (2018). Digital technology, work extension and the acceleration society. *German Journal of Human Resource Management*, *32*(3–4), 168–176. https://doi.org/10.1177/2397002218775930

Wimmer, R. D., & Dominick, J. R. (2013). *Mass media research: An introduction* (10th edition). Cengage Learning.

Xu, Y. (2017). Modeling the adoption of social media by newspaper organizations: An organizational ecology approach. *Telematics and Informatics*, *34*(1), 151–163. https://doi.org/10.1016/j.tele.2016.05.002

Yahaya, I. Y. (1988). *Hausa a rubuce: Tarihin rubuce rubuce cikin Hausa*. Kamfanin Buga Littattafai Na Nigeria Ta Arewa.

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