

## **Constraints in the Adoption of Information and Communication Technologies (ICTs) in the Newsroom of *ThisDay*, *Daily Trust*, and *The Guardian* Newspapers in Nigeria**

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### **Abstract**

Information and communication technologies (ICTs) remain crucial aspects of the communication and information-dissemination needs of the world and their adoption has been made a priority across different countries of the world in various sectors of the economies – media, education, arts, culture, science and technology. Despite the realisation of the place of ICTs in the transformation of newsgathering, production, and dissemination in the media industry, the adoption and utilisation is seemingly slow in some countries including Nigeria. Therefore, this study was conducted to examine the constraints that hinder the adoption of ICTs in three print outlets in Nigeria namely *ThisDay*, *Daily Trust*, and *The Guardian*. Using a cross-sectional survey design, the researchers identify financial, infrastructural, and human capital development-related issues as some of the major barriers. Findings further reveal inadequate funding, and low digital literacy among some staff as major constraints to the full adoption and utilisation of ICTs in the newsroom operations of the select print mediums in Nigeria. The researchers conclude that ICTs are important in modern journalism practice highlighting the various aspects that the technologies have proven to be indispensable. In line with the findings and conclusion, the researchers recommend policy frameworks, investment in technology, and regular staff training as part of necessary measures to enhance ICTs integration, admonishing media organisation to make digital transformation a priority, particularly in the age of digital media.

**Keywords:** Adoption, Communication, Media, Newspaper, Newsroom

### **Introduction**

Information and Communication Technologies (ICTs) leveraged in modern times to handle communication encounters and information-dissemination through a combination of telecommunications and computing technologies. ICTs encompass various aspects which include computer software and hardware, then the internet and signals (telecommunication systems) – all activated to enable people gain access, have the capacity to store, transmit, and also manipulate digital information (Kirvan et al., 2025). The primary goal is to ensure that users have access to information across different aspects of life; from education, government, healthcare to even journalism practice.

These technologies are currently being used by international media, global industries, and academics as a reflection of the convergence of communication and computer technologies (Khadimally, 2019). In modern journalism, therefore, ICTs play crucial roles such as

improving newsgathering, processing, and dissemination (Olubunmi, 2022). In essence, these technologies provide the necessary tools like mobile devices and the Internet readily programmed to enable real-time reporting, efficient editing, and distribution with the use of multiple delivery channels (Aiyeguisi, 2023). The platforms also connect journalists across the globe while also enabling a participatory audience. This implies that the technologies ensure accuracy, efficiency, and also provide opportunities for interactivity.

From a general perspective, ICTs are reputed for positively impacting modern journalism practice in diverse ways which include accelerated newsgathering and reporting, enhanced information processing, widespread and instantaneous dissemination, multimedia integration, audience engagement and increased interactivity, improved research and fact-checking capabilities, and data journalism among others. A major takeaway from the impact of ICTs on journalism practice is audience participation because social media and related online platforms created by virtue of the ICT phenomena create opportunities and channels for direct audience feedback. This creates a scenario where news becomes more interactive and responsive to the needs of the public (Asimakopoulos et al., 2025; Bhatnagar, 2018).

Irrespective of the numerous positive roles of ICTs in modern journalism, there are gaps, particularly in the adoption across different countries of the world. For instance, the adoption is not balanced between the Global North and South. In this context, the level of adoption recorded in the Global South is clearly and evidently lower in comparison with the Global North (Fahmi & Mendrofa, 2023). Primarily, this is marked by the disparities in respect of skills, cost of acquisition, infrastructure, and strategic use of technologies. Whereas efficiency and innovation are some of the basic achievement with deep integration and utilisation of ICTs in the Global North, overcoming existing infrastructural gaps through the focus on basic access and connectivity among citizens remains the goal in the use of ICTs in the Global South (Orisadare et al., 2025).

The foregoing does not mean that efforts are not being made by countries in the Global South but such efforts have simply not yielded the desired results. This is also the case of Nigeria where several deadlines for digital switchovers have been breached. In its journey of transitioning from analogue to digital media operations, the media in Nigeria is bedeviled by several complex challenges. These include but not limited to paucity of funds allocated to the programmes and project, skill gaps, and lack of enthusiasm from government (Ezeaku, 2024). These challenges may inhibit progress and development of the media industry because digitisation of the newsroom provides good environment for the media to grow in any country. This is buttressed by results from the study conducted by Peter (2024) in which it was revealed that the growth of the Nigerian media is premised on digitisation. In spite of this, there is a general trend of slow adoption of technologies in the media landscape.

The slow pace of adoption and utilisation of ICTs in the media landscape of the Global South, particularly in Nigeria and its associated challenges in respect of growth and development has continued to generate debate in the academic and media circles. It is not for lack of understanding of the impact of the technologies because journalists and media owners see and clearly understands the usefulness and importance of technologies in their operations (Igyuve et al., 2020). Despite the knowledge of the importance of ICTs to journalism, the adoption of the platforms in Nigeria is not even. This is coupled with the reality where little is known about the level of adoption on a case-by-case basis. Additionally, there is knowledge gap in respect of the real constraints posing as drawbacks in the desire to adopt technologies in the newsroom operations of newspapers in Nigeria.

Furthermore, empirical evidence from different studies support the foregoing assertion highlighting the dearth of knowledge of the ICTs and issues with adoption and utilisation (Alum, 2014; Onwe, 2021). For instance, John et al. (2022) demonstrate that lack of knowledge of ICT and issues related to training on ICTs are peculiar challenges faced by journalists in Nigeria. Poor knowledge and skills, epileptic power supply, and funding challenges among others are identified as some of the constraints associated with the integration of ICTs in Nigeria's media communication (Wogu et al., 2018). Against this backdrop, this study was conducted to investigate constraints faced by select print media outlets in Nigeria.

### **Research Questions**

The study's research questions were:

1. What is the level of adoption of ICTs in the newsroom operation of *ThisDay*, *Daily Trust*, and *The Guardian* newspapers?
2. What are the various ICTs adopted and utilised in the newsroom operations of *ThisDay*, *Daily Trust*, and *The Guardian* newspapers?
3. What are the key constraints associated with the adoption of ICTs in the newsroom operation of *ThisDay*, *Daily Trust*, and *The Guardian* newspapers?
4. How do journalists perceive the constraints?

### **Literature**

#### **Newsroom and the ICTs in the Context of Print Journalism**

Print journalism and ICTs have become entwined with the latter creating latitude of opportunities for the transformation of the former. In essence, ICTs have caused fundamental transformation of print journalism through their impact on the newsroom as operations are digitised, news cycles accelerated, and multimedia convergence enabled (Olubunmi, 2022). One major takeaway from this is that the scope of news reporting, and news efficiency and productivity have been greatly enhanced. Against this backdrop, researchers such as Ayoola (2024), Ifeanyi et al. (2021), and Gapsiso (2014) affirm that effective news processing in the digital age is premised on ICTs that have remained indispensable in journalism.

Several of the areas of impact range from newsgathering to information management and other aspects such as news processing and editing, production and distribution, and audience integration. From newsgathering, ICTs have simplified things to the point that journalists need not deliver stories or have them dictated over the phone. In line with the foregoing, Igyuve et al. (2020) highlight that tools such as mobile phones, email, the Internet, digital cameras, portable computers (laptops), and digital audio recorders among other ICTs are utilised by journalists to gather, process, and transmit or share with the base for onward dissemination to the audience. This is significant because of the reduced time of gathering, processing and disseminating news – from the field reporting to the newsroom dissemination.

In the case of Nigerian newspapers' newsrooms, ICTs have also had great impact. Ayoola (2024) particularly highlights the place of ICTs in the newsroom of media organisations in Nigeria having simplified newsgathering and processing activities. Findings of the study conducted by the researcher reveal that the technologies occasioned aided news gathering and created innovative ways for processing of newsroom in the modern newsrooms of media organisations in Nigeria. The drive towards digitisation of the news process has gained momentum in the Nigerian media landscape owing to the spread and adoption of ICTs and related digital technologies required for efficient and effective newsgathering and reporting in today's digital age.

The adoption and utilisation is premised on the impact of ICTs on audience reach, news quality, and sustainability. In respect of audience reach, ICTs' impact transcends aspects such as the distribution and ease of access. This is buttressed by the study conducted by Omobitan and Aiyeguisi (2023) in which findings demonstrate manual news processing has been reduced as the technologies enhanced news collection, quality and the amount of content published. Furthermore, data from the study highlight the challenges associated with adoption of ICTs in campus journalism practice such as the challenge of fake news, dearth of knowledge and inadequate manpower emphasising the need for increased training among practitioners.

In respect of audience research, Chukwu (2018) highlights that ICTs are crucial enablers of media organisations as the limitation of reach is somewhat curtailed. Aside enabling media access to audience, ICTs offer instantaneous content delivery, eliminate geographical barriers, and transform the audience from the passive to the active participants. This further demonstrates the effectiveness of ICTs in the media industry. Findings of a study by Anorue et al. (2022) reveal that journalists are of the perception that technologies are effective as tools used in the media sector. Particularly, the researchers demonstrate that 55% of practitioners share the notion of ICTs' effectiveness.

The idea of sustainability of the newsroom of media organisations stems from the perspective of the evolution from one technological era to another since the media landscape constantly evolves. This is supported by researchers such as Anand (2023), Song (2024), and (Zou, 2025) with assertions in respect of the media industry being one that is evolving transcending from more traditional to technology-driven forms. Through its impact on efficiency, transformation of traditional practices, and ensuring deeper audience engagement, ICTs ensure that the newsrooms of media organisations are economically, environmentally, and socially sustainable (Abubakar et al., 2021). This is further demonstrated in the continuous use of various ICTs over time as part of measures to ensure that the audiences are better served.

### **Constraints of ICT Adoption in Newsroom of the Media in Nigeria**

Though players in the media industry in Nigeria understand the place and impact of ICTs in the newsroom operations, there is seemingly slow pace in adoption. This is supported by findings of a study conducted by Inobemhe et al. (2025) in which the researchers demonstrate a challenge that relates to technology adoption intention in the media industry in Nigeria. The researchers further reveal that this is attributable to certain constraints like unfamiliarity with some technologies, inadequate technical training, and limited digital literacy among others. Broadly, the constraints of ICT adoption in the newsroom of media outlets in Nigeria can be attributed to infrastructural impediments (Nigerian Communications Commission, 2021), financial challenges (Oyedokun, 2022), human resource issues, and organisational management-related problems (Aiyeguisi, 2023).

In respect of the infrastructural challenges associated with the slow pace of lack of adoption of ICTs in the Nigeria's media industry, this can be in form of epileptic power supply, inadequate technologies required for newsgathering and processing, and poor Internet coverage and services. This is supported by empirical evidence as results of a study conducted by Moshood et al. (2020) reveal that the lack of infrastructure to aid digital uptake has constituted a serious barrier to the adoption of technology in specific industries in Nigeria. For example, the researchers demonstrate that this has been the situation in the construction of industry in Nigeria. This resonates with the results of a study by Mas'ud and Igyuve (2024) in which the researchers reveal inadequate ICT infrastructure as major impediment to adoption in Nigeria.

There are constraints associated with financial cost, particularly for technology acquisition and maintenance. In Nigeria, limited local technical capacity, high costs of importation and poor infrastructure are some of the issues associated with financial constraints negatively impacting technology acquisition and maintenance in the country (Igbaekemen, 2020; Nwaimo et al., 2024; Sadiq et al., 2022; Yakubu & Dasuki, 2018). In essence, the hydra-headed financial constraint is often manifested in the funding shortages and high technology acquisition costs, technical and maintenance limitations, operational costs (largely due to the unreliable and expensive power supply), import challenges mostly driven by currency and foreign exchange fluctuations. This is compounded because Nigeria is heavily reliant on the importation of technological software and hardware (Adepetun, 2019; Jaiyeola, 2022).

Training and resistance to change are some of the human resource-related constraints faced in ICT adoption in Nigeria, especially in the newsroom of media organisations. This is the case because of the significance of training in developing skilled and ICT-compliant workforce (Okon, 2022). Empirical data reveal that resistance to adopting new technologies, lack of training on ICTs, and the challenge of inadequate emphasis on the need to acquire digital skills as major constraints that inhibit digital literacy among Nigerians (Nwonye et al., 2025). The implication is that aside the challenge with digital literacy, there is an associated problem that has to do with behavioural response to change, particularly in respect of adoption of new technologies. This has been buttressed by empirical evidence that points to resistance to change in technology among Nigerians (Folake et al., 2026; Ibrahim et al., 2024).

Lack of management support coupled with policy-related inadequacies amount to constraints in ICT adoption across various media newsrooms in Nigeria. This slows down the transition from analogue to digital newsroom, leading to the country's inability to attain full utilisation of sophisticated technology for media operations (Wogu et al., 2018). Management support can be enlisted to provide the requisite investment, training and maintenance of new technology – but absent, media outlets resort to the use of the traditional and analogue methods and tools for newsroom operations. Nigeria is faced with the challenge of ineffective government regulatory frameworks policies which fails to foster conducive environment that enables technology acquisition. For instance, results of studies conducted by Freij (2022) and Nwaimo et al. (2024) show that regulatory framework and policy issues as inhibitive factors to technology adoption.

Empirical evidence of certain constraints faced in the newsroom of media organisations in Nigeria. These evidence points to the challenge of high cost required to acquire ICT equipment (financial constraint) (Oyedokun, 2022), lack of expertise and poor funding (Ntuk et al., 2022), absence of clear-cut policies, and the lack of power supply and requisite expertise (Barnabas, 2017) among others. Despite recent attention given to ICT adoption and application in the newsroom operations of media organisations in Nigeria (Anorue et al., 2022; Ayoola, 2024; Boma & Kente, 2025; Linus et al., 2023), there are still areas left uncovered implying knowledge gap. Accordingly, a glaring gap from the literature review is based on the dearth of comparative studies on specific newspapers in Nigeria. Little is known about the adoption and utilisation of ICTs by specific newspaper organisations in the country, hence, the conduct of this current study to bridge the gap.

### **Theoretical Framework**

This study is anchored on the technology acceptance model (TAM) based on the extensive works of Fred Davis which is based on the assumption that the acceptance and use of technology is predetermined by two main determinants including the perceived usefulness (PU) and the perceived ease of use (PEOU). The perceived usefulness (PU) is explained by the

conviction that technology can enhance job performance while the perceived ease of use (PEOU) is premised on the idea of ICTs' sophistication which is influenced by the challenges associated with their use due to infrastructural or training deficit. The model is of the assumption that behavioural intention is influenced by PU and PEOU. Accordingly, the decision to use a system or technology is driven by the user-friendliness and benefits as perceived by the users (Mugo et al., 2017).

In line with this study, TAM is highly relevant to this study with focus on the constraints associated with the adoption of ICTs in Nigerian media newsrooms. Existing studies show that though journalists in Nigeria have full knowledge of the high utility associated with the use of ICTs; accuracy, efficiency, and speed (greater level of PU), there are challenges such as infrastructural constraints that hinder the adoption and render the technologies difficult to use (resulting in low level of PEOU). The foregoing is based on evidence from results of the study conducted by Boma and Kente (2025) demonstrating the issues associated with the actual adoption of adoption.

### Methods

This study is based on a cross-sectional survey in which the researchers relied on the use of quantitative methods of data collection to elicit useful data from journalists, editors, technicians, and IT support staff in select newspapers in Nigeria including *ThisDay*, *Daily Trust*, and *The Guardian* newspapers. The researchers relied on Cochran formula for unknown population variability to determine 384 as the sample size for this study. Accordingly, purposive sampling technique was utilised, through a mix of online and physical means, to arrive at the respondents that took the survey. The Cochran alpha formula was relied upon to determine the internal consistency suitability as part of the desire to ascertain the reliability of the instrument of data collection. The results ( $\alpha = 0.985$ ) imply an excellent score meaning that the survey instrument of data collection is highly reliable. Descriptive statistics like frequency distribution, mean score and percentages were used for the analysis of quantitative data for this study.

### Results

The survey yielded significant data with 364 valid respondents providing the needed data for analysis. The response rate represents 94.79% of 384 being the sample size of respondents that took the survey. Data from the survey are analysed and presented in frequency distribution tables.

Table 1: Demographics of Respondents

Parameters	F (%)	
	F	%
<i>Gender of Respondents</i>		
Female	133	36.6
Male	231	63.5
<i>Age of Respondents</i>		
18-30	96	26.4
31-40	99	27.2
41-50	114	31.3
51-60	27	7.4
61 and above	28	7.7

*Educational Qualification of Respondents*

O'Level/Technical College	17	4.7
ND/HND	95	26.1
First Degree	220	60.4
Second Degree and above	32	8.8
<i>Respondents' Level of ICT Skills</i>		
High skill	71	19.5
Mid-skill	229	62.9
Undecided	16	4.4
Intermediate	18	4.9
Low skill	30	8.2
<b>Total</b>	<b>364</b>	<b>100</b>

Data in Table 1 above represents the demographic information of respondents. The gender composition shows a huge disparity between male and female respondents with the male being dominant. This has no direct impact on the outcome of this study because it does not have a gender perspective. Additional information on age distribution of the respondents shows that the majority of them are of the statutory age under the definition of adulthood. This implies that they have the maturity of mind to understand and take the survey further strengthening the notion that the respondents possess the qualities required to take a survey of this nature.

On the educational attainment of the respondents, data reveal that majority are educated to the level where they possess first degrees, closely followed by a significant percentage of those with a National Diploma/Higher National Diploma (ND/HND). Furthermore, the data show that a good number of the respondents have second degrees and above implying that they possess higher educational qualifications. The data on the respondents being holder of O'Level/Technical Collage certifications signifies that they have the requisite knowledge to take the survey since it borders on ICTs' adoption in the newsroom of newspaper outlets in Nigeria. Data that pertain to the level of skills indicated that majority of the respondents are mid-skilled in the context of their use of ICTs. The implication is that they possess the technical knowledge required to take the survey.

Table 2: Level of Adoption of ICTs in the Newsroom Operations of Newspapers in Nigeria

Parameters	F (%)					Decision
	SA	A	U	SD	D	
Adoption of ICTs in the newsroom of print media outlets in Nigeria is considerably high	18(4.9)	15(4.1)	202(55.5)	95(26.1)	34(9.3)	Rejected
The level of adoption of ICTs in the different print media outlet differs	109(29.9)	166(45.6)	49(13.5)	15(4.1)	25(6.9)	Accepted
There is considerable comparative difference in the level of adoption across select newspapers	39(10.7)	75(20.6)	172(47.3)	41(11.3)	37(10.2)	Undecided
<i>ThisDay</i> Newspaper as an outlet has a very high level of adoption of ICT in its newsroom	20(5.5)	201(55.2)	80(22.0)	20(5.5)	43(11.8)	Accepted
<i>Daily Trust</i> Newspaper has highly adopted ICTs in its newsroom operation	38(10.4)	34(9.3)	242(66.5)	27(7.4)	23(6.3)	Undecided
<i>The Guardian</i> Newspaper is the media outlet with the most significant adoption of ICTs	189(51.9)	139(38.2)	16(4.4)	8(2.2)	12(3.3)	Accepted

**Note:** SA: Strongly agree; A: Agree; U: Undecided; SD: Strongly disagree; D: Disagree F: Frequency

The data in Table 2 show that though there is reasonable adoption of ICTs in the newsroom operation of newspapers in Nigeria, it is however, not considerably high. This is based on data

in the table that demonstrate that respondents are undecided in respect of the notion. Furthermore, data show that the level of adoption comparatively differs from one outlet to another. While the adoption in the newsrooms of *ThisDay* and *The Guardian* newspapers is said to be high based on the respondents' notion, it is not the same case in *Daily Trust* as majority of the respondents were undecided with regards to the notion that the newspaper's newsroom has recorded high level of adoption of ICTs.

Table 3: Various ICTs adopted and Utilised in the Newsroom Operations

Parameters	F (%)					Decision
	SA	A	U	SD	D	
Mobile phone is a significant ICT adopted and utilised in newsroom operations	25(6.9)	211(58.0)	81(22.3)	20(5.5)	27(7.4)	Accepted
Computer is adopted and utilised ICT in the newspaper outlets	110(30.2)	184(50.5)	23(6.3)	16(4.4)	31(8.5)	Accepted
Routers and other Internet facilities are highly adopted and used in the newsroom	152(41.8)	155(42.6)	21(5.8)	21(5.8)	15(4.1)	Accepted
Digital midjets and camcorders are ICTs adopted in the newsroom	172(47.3)	36(9.9)	123(33.8)	13(3.6)	20(5.5)	Accepted
Social media, email, videoconferencing, blogs are some of the ICT tools and platforms	222(61.0)	11(3.0)	108(29.7)	12(3.3)	11(3.0)	Accepted
Digital printers, scanners, and digital editing systems are utilised in newspapers' newsroom	41(11.3)	189(51.9)	73(20.1)	40(11.0)	21(5.8)	Accepted

**Note:** SA: Strongly agree; A: Agree; U: Undecided; SD: Strongly disagree; D: Disagree F: Frequency

This study's data in Table 3 above imply that various ICTs tools and platforms are adopted and utilised in the newsroom operations of *ThisDay*, *Daily Trust*, and *The Guardian* newspapers. Accordingly, mobile phones, computers, routers and similar Internet facilities, social media, email, videoconferencing, blogs, digital printers, scanners, and digital printing systems are some of the ICTs adopted and utilised in the newsrooms of the newspaper outlets in Nigeria.

Table 4: Key Constraints Associated with the Adoption of ICTs in Newsroom Operations

Parameters	F (%)					Decision
	SA	A	U	SD	D	
Financial challenges (technology and maintenance cost) constitute major constraint	101(27.7)	208(57.1)	24(6.6)	16(4.4)	15(4.1)	Accepted
Infrastructural inadequacies (Internet, power, software, and hardware) make up key constraint	65(17.9)	216(59.3)	41(11.3)	21(5.8)	21(5.8)	Accepted
Inadequate training on ICT handling and resistance to change among journalists (human resources-related) are constraints	71(19.5)	203(55.8)	63(17.3)	12(3.3)	15(4.1)	Accepted
Lack of management support and policy issues (organisational challenges) are constraints	63(17.3)	57(15.7)	221(60.7)	10(2.7)	13(3.6)	Undecided
Low digital literacy is another constraint faced in the newsroom ICT adoption	71(19.5)	79(21.7)	192(52.7)	11(3.0)	11(3.0)	Undecided

**Note:** SA: Strongly agree; A: Agree; U: Undecided; SD: Strongly disagree; D: Disagree F: Frequency

As seen in Table 4 above data reveal that some key constraints militate against the adoption and use of ICTs in the news outlets. Financial challenges that inhibit cost of acquisition and maintenance of technologies, infrastructural inadequacies, and inadequate training on ICT handling coupled with the issue of resistance to change among media practitioners were identified as some of the glaring constraints.

Table 5: Media Practitioners' Perception of the Constraints

Parameters	F (%)					Decision
	SA	A	U	SD	D	
The constraints are inhibitive to growth of print media industry in the digital era	125(34.3)	160(44.0)	24(6.6)	20(5.5)	35(9.6)	Accepted
Speed and efficiency are sacrificed on the altar of inadequate ICT adoption in the newspapers' newsroom	99(27.2)	143(39.3)	95(26.1)	11(3.0)	16(4.4)	Accepted
The challenges greatly affect affordability, access/adoption, usage, and impact of ICTs in the print industry in Nigeria leading to reduced productivity among journalists	87(23.9)	189(51.9)	68(18.7)	9(2.5)	11(3.0)	Accepted
Audience engagement is negatively impacted on account of the difficulty to adopt ICTs in the print media industry	40(11.0)	77(21.2)	221(60.7)	12(3.3)	14(3.8)	Undecided

**Note:** SA: Strongly agree; A: Agree; U: Undecided; SD: Strongly disagree; D: Disagree F: Frequency

The data show that the constraints are inhibitive to the growth of the industry, negatively affect speed and efficiency due to inadequate ICTs adoption, as well as affordability, access/adoption leading to reduced productivity.

## Discussion

The findings of the study show that the journalists in media organisations possess certain level of ICT skills that may not match the level of adoption of the technologies in the newsroom operations of *ThisDay*, *Daily Trust*, and *The Guardian* newspapers. As seen in data in Table 2, the data show that 202 (55.5%) respondents were undecided as per whether or not the adoption of ICTs in the newsroom operation of select print media organisations in Nigeria is considerably high. This means that there may be no straight-jacketed indices with which the level of adoption of ICTs by the staff in the various print media outlets in the country can be measured. This is in sharp contrast with the results of a study conducted by Obayi et al. (2018) in which the results demonstrate great knowledge of the level of adoption and that journalists utilise ICTs for their operations.

Data show that the level of adoption, however, differ from one outlet to another based on the notion expressed by the respondents (SA = 29.9%, A = 45.6%). Nevertheless, the majority of respondents (U = 47.3%) could not tell whether or not there is considerable comparative difference in the level of adoption across the media outlets namely *ThisDay*, *Daily Trust*, and *The Guardian* newspapers. According to the data in Table 1, *ThisDay* newspaper (SA = 5.5%, A = 55.2%) and *The Guardian* (SA = 51.9%, A = 38.2%) have a very high level of adoption of ICTs in its newsroom. In fact, data demonstrate that *The Guardian* is the outlet with the most significant adoption among the three studied.

Results of the study as captured in the foregoing validate findings of earlier studies that demonstrate the adoption of ICTs in the newsroom operations of media outlets in Nigeria (Boma & Kente, 2025; Oyedoku & Oladosun, 2022). Furthermore, the findings of the study conducted by Ojigwo et al. (2023) specifically reveal the application of ICTs in the newsroom operation of the print media genres of newspaper and magazine, particularly production. Contrastingly, data reveal that respondents could not tell (U = 66.5%) whether or not *Daily Trust* newspaper has highly adopted ICTs in its newsroom operations.

This study's result reveals that mobile phones (SA = 6.9%, A = 58.0%), computer (SA = 30.2%, A = 50.5%), routers and other Internet facilities (SA = 41.8%, A = 42.6%), digital midgets and

camcorders (SA = 47.3%, A = 9.9%), social media, email, videoconferencing, blogs (SA = 61.0%, A = 3.0%), and digital printers, scanners, and digital systems (SA = 11.3%, A = 51.9%) are some of the various ICT tools and platforms adopted and utilised in the newsroom operations of the newspaper organisations in Nigeria. The significance of this result is that there is a great knowledge and reasonable adoption of ICTs as tools for operations in modern newspaper newsroom in the country. This is in alignment with earlier studies that reveal the adoption of specific ICTs in the newsroom operations of media organisations in Nigeria (Adeniran & Atofojomo, 2017; Anorue et al., 2022; Ibrahim et al., 2021; Isuwa, 2023). This also contrasts results of the study conducted by Ukwuru et al. (2023) in which the researchers reveal minimal adoption and exposure.

Furthermore, findings of this study demonstrate that constraints like financial challenges (technology and maintenance cost) (SA = 27.7%, A = 57.1%), infrastructural inadequacies (Internet, power, software, and hardware) (SA = 17.9%, A = 59.3%), inadequate training on ICT handling and resistance to change among journalists (human resource-related) (SA = 19.5%, A = 55.8%) were identified as inhibitive to the adoption and use of ICTs in the newsroom operations of the newspaper organisations. The implication of the data on some of the constraints identified in the study is that there are glaring inhibitive factors that may negatively affect ICT adoption in the print media industry in Nigeria. Previous studies also established that constraints ranging from finance to infrastructure and even resistance to change influence the slow pace of adoption of technology in Nigeria (Nwaimo et al., 2024; Nwamara, 2022; Nwonye et al., 2025; Rawayau, 2024).

In contrast to the foregoing results on the different challenges associated with the adoption and use of ICTs in Nigeria's print media industry newsroom operations, this study's data further reveal absence of knowledge on the impact of factors like policies and low digital literacy as factors that could also affect adoption. Accordingly, the data show that respondents could not tell whether or not lack of management support and policy issues (U = 60.7%), and low digital literacy (U = 52.7%) constitute serious constraints to the adoption. This does not in any way contradict earlier studies such as Arion et al. (2024), Mukhula et al. (2021), Olarewanju et al. (2021), Omeni-Pius (2025), Sadiq et al. (2022), and Usman and Abdulrazaq (2025) that demonstrate how these factors inhibit the adoption and application of various ICTs in various industries in the twenty-first century.

Results further reveal that the identified constraints are not just inhibitive to adoption but also inhibit the growth of print media industry in the digital era in Nigeria (SA = 34.3%, A = 44.0%). Additionally, the data show that speed and efficiency are sacrificed on the altar of inadequate ICT adoption in the newspaper newsroom (SA = 27.2%, A = 39.3%). This is closely related to data that demonstrate that the constraints greatly affect affordability, access/adoption, usage, and impact of ICT in the industry leading to reduced productivity among journalists (SA = 23.9%, A = 51.9%). The result of this study can be linked to TAM as demonstrated in Boma and Kente (2025) wherein the researchers show that despite the knowledge of the usefulness of ICTs, certain factors still affect adoption. The respondents could not, however, establish whether or not audience engagement is negatively impacted on account of the difficulty to adopt ICTs in the print media industry (U = 60.7%).

## **Conclusion**

The study has established that newspaper organisations in Nigeria are faced with serious constraints as they navigate the complex terrain of migrating from analogue to digital operations through the adoption and utilisation of ICTs. Accordingly, different constraints were

identified and such range from technology and maintenance costs linked to financial challenges to infrastructural inadequacies and even inadequate training on ICTs coupled with the issue of resistance to change among many media practitioners. In conclusion, these constraints are inhibitive as various aspects required to have a functional print media industry are negatively impacted. As clearly reflected in the perception of media practitioners, speed and efficiency are negatively affected. This is addition to the impact on affordability, access/adoption, usage and impact of ICTs which has culminated in reduced productivity.

The practical implication of the results of this study is the need for policy, training, and investment in the print media industry to cater for the issues identified. Most significantly is the need for training and investment as both can drive an industry that aligns with digital era. This is even crucial considering the twenty-first century's media focus on digital newsroom operations driven by ICTs. Accordingly, the call to action is for media organisations to leverage the abundant opportunities to prioritise digital transformation in this age and time. This will position the industry to attain greater heights and compete favourably with similar industry in more developed countries of Europe and the America.

### **Recommendations**

In order to drive the change and build ICT-compliant industry, the following recommendations are crucial:

1. There is a need to provide regular training on the handling of ICTs among journalists and other media practitioners. This can be jointly organised by the various media outlets and professional associations in the country.
2. Media organisations should make efforts to access funding from donor agencies and other streams to improve Internet infrastructure and ensure that the requisite technical support is provided to the newsroom staff. This is necessary to ensure newsroom operations in the digital era.
3. Concerted efforts should be made by the management of various print media outlets in Nigeria to secure funding through grants and partnerships. This is imperative to ensure that the editorial integrity of the media is not negatively influenced through over-reliance on funding by advertisers and political elements in the country.
4. Media practitioners in conjunction with policymakers should develop ICT policies and incentives that can be relied upon to galvanise the print media industry in Nigeria to one that is ICT-compliant.

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